THE AIRBORNE FIELD ARTILLERY: FROM INCEPTION TO COMBAT OPERATIONS

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The opinions and conclusions expressed herein are those of the student author and do not necessarily represent the views of the U.S. Army Command and General Staff College or any other governmental agency. (References to this study should include the foregoing statement.)

ABSTRACT

THE AIRBORNE FIELD ARTILLERY: FROM INCEPTION TO COMBAT OPERATIONS, by LTC Robert M. Pierce, 107 pages.

In February 1942, the War Department established the first Airborne (artillery) Test Battery to conduct experiments and determine the feasibility of parachute field artillery. In just over a year's time, the notion of airborne field artillery, which consisted of parachute and glider field artillery battalions, evolved from its inception to combat operations in Africa, Sicily, and Italy. These campaigns would pave the way for what would be the biggest airborne drop and allied undertaking in history--D-Day, June 6, 1944. The challenge facing airborne field artillery forces was that its concept was new and evolving, but yet the greatest cross-channel invasion loomed just over the horizon. With these facts of history as background and given the 82nd Airborne Division's previous combat experiences in Sicily and Salerno, what adaptations were made in the planning and development of the concept of operations with regard to the role the division artillery was expected to play in the execution of Operation Neptune? In order to arrive at a reasonable conclusion, airborne doctrine as well as combat operations in Sicily and Italy was examined. Surprisingly, the 82nd Airborne Division Artillery did nothing different with regard to what was expected of them and their role in the initial invasion of Normandy.

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I would also like to take this time and thank my father, for his efforts in assisting me in reviewing my research as editing the chapters I wrote. He provided the sanity check and quality control in how I outlined and wrote a large portion of my thesis. Additionally, he was a great morale booster in cheering me on, which allowed me to finish this project well ahead of schedule. Lastly, I would like to thank my wife for standing beside me and being the great supporter that she is. She allowed me the time needed to write and not have to worry about watching our little children as well as sacrificing family time so I could complete this thesis and further educate myself. I will always be thankful for everyone who had a part in making this writing a tremendous success. Thanks to you all.

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ACRONYMS

DZ	Drop Zone
LZ	Landing Zone
PFA	Parachute Field Artillery
GFA	Glider Field Artillery
PCT	Parachute Combat Team
GCT	Glider Combat Team
DIVARTY	Division Artillery
LOC	Lines of Communication
CCS	Combined Chiefs of Staff
COSSAC	Combined Chiefs of Staff to the Supreme Allied Commander
SHAEF	Supreme Headquarters Allied Expeditionary Force
ATC	Assault Training Center

CHAPTER 1

INTRODUCTION

Throughout our nation's history there have been occasions where we, as a people, have been put to the task of waging war for one reason or another in order to achieve a strategic aim that was driven by our National Security Strategy. The early 1940s provided just such an occasion when Adolf Hitler and his Nazi Germany declared war on the United States in late fall of 1941. What reason could Germany possibly have for declaring war? At that point in time they were allied with Japan and when the Japanese struck a decisive blow to America at Pearl Harbor, Hitler knew it was only a matter of time before the U.S. became involved in the war. Knowing that it was merely a matter of time, he displayed bold initiative and declared war on America first. But why? Nothing Hitler had learned of the British and American performances in combat operations in France, North Africa, and the Mediterranean from 1940 to 1944 would cause him to doubt the success his Wehrmacht would have against the Allies, and further believed that "totalitarian fanaticism and discipline would always conquer democratic liberalism and softness."[1]

Hitler's desire to conquer Europe fueled his policy of Blitzkrieg in 1940--1941 and "by the summer of 1942 the German Empire extended from the Pyrenees to the outskirts of Moscow and . . . from the Mediterranean to the Arctic."[2] This newly conquered territory became a fundamental problem for Hitler in that he had no means by which to secure it all. He soon resorted to conscripting foreign soldiers, old men and young German boys to carry out his orders of defending all the land the Germans

captured. This approach of defending occupied land was difficult at best because it took away his ability to sustain combat operations in the east.

By January 1943, German troops had suffered significant losses against the Russians in the Eastern Front to the point that they "had no hope of winning a military victory against the Soviet Union."[3] Hitler all but gave up any hopes for victory. Instead, he professed a growing concern in the west: that of an American landing along the French coastline that could possibly have a tremendous and adverse impact on Germany's survival as a nation.

In the Furhrer Directive No. 51, dated 3 November 1943, Hitler explained "If the enemy here (in the West) succeeds in penetrating our defense on a wide front, consequences of staggering proportions will follow within a short time."[4] With that declaration he began strengthening his western defenses in preparation for what Hitler saw as the decisive battle. With such a formidable German western defense, how could the Allied forces ever hope to conduct a successful invasion?

The Normandy invasion was the catalystic event that brought about the end of Nazi-occupation in France and set the stage for the eventual fall of Adolf Hitler and the Third Reich. The Allied planners had many challenges facing them as they went about planning for the largest, most complex invasion ever undertaken. Their key problem "was to land, penetrate the Atlantic Wall, and secure a lodgment in an area suitable for reinforcements and expansion."[5] With amphibious landings among the most difficult operations to undertake, few had been truly successful during the World War II time period up to the point when planners began to undertake the task of planning Overlord. The Allied Forces had conducted three amphibious landings by 1944. The landings in

North Africa in 1942 and Sicily and Salerno in 1943 were successful in their own right, but each operation was plagued with its own set of challenges. Despite the successes and failures of the previous amphibious landings, one common factor among all three was that "none of the coastlines, however, had been fortified."[6] This would not be the case for the invasion of Normandy!

Once the Allies were able to land and penetrate the fortified defenses of the French coastline, their next task was to establish a secure beachhead and start building up sufficient combat power in order to continue the attack inland. If the Germans were able to react to the landings and get reinforcements to the beach defenses before the Allied forces could establish a lodgment and build up their combat power, the consequences would be devastating.

So what made success of the actual D-Day Invasion so crucial for Allied forces? The reasons were both political and strategic. Political in that the U.S. had promised the Soviet government it would open a second front in the west to relieve some of the pressure on the Soviets in the Eastern Front since they had been doing most of the fighting. Strategically the U.S. needed to open a second axis of advance to Germany as the axis from the south, out of Africa and through Italy into Germany, was taking too long and costing lives. But how would the War Department accomplish the daunting task of opening a second front?

In previous years, the Allied forces had used the design of beach landings as a means to get large invading forces onto enemy shores quickly and in mass. The Russians, followed by the Germans, saw the utility of transporting large combat formations by air and then parachute dropping them into an area to perform a specific task. The Russians

did not quite perfect the concept, but the Germans did; and it was their development of using airborne forces to achieve military objectives that brought to the forefront of U.S. emerging doctrine the notion of using airborne and glider troops as a means to conduct a vertical envelopment. With the notion of having the ability to conduct paratroop drops and glider insertions behind enemy lines or defenses, views from the War Department transitioned from mere amphibious assaults to combining the execution of airborne and seaborne troops to envelop an enemy from the sea and the air! The airborne forces would drop in behind coastal defenses to prevent reinforcements from getting to the beaches, while the seaborne forces would conduct an amphibious landing. The initial concept was tested in Africa followed by a more concerted effort during the invasions of Sicily and Italy. Though these invasions were successful, they also proved much work was needed in order for an Allied envelopment by sea and air to be a viable option should Allied Forces attempt to gain a second foothold on European soil. The War Department knew the only way they could gain a foothold on European soil was to do it by invading the coast of France. Never before had an Allied force contemplated and attempted to conduct a cross-channel attack with such an enormous invasion force. The scale and complexity of the Normandy undertaking were beyond anything the Allies had ever previously attempted.

From airborne and glider insertions of U.S. and other Allied nation forces to the treacherous beach landings along the Normandy coast, U.S. historians and others alike did a magnificent job in documenting and publishing their works regarding the actions that took place starting on 6 June 1944. Operation Overlord, the code name for the Allied cross-channel attack, included airborne drops from the U.S. 82nd and 101st Airborne

Divisions to seal off the Cotentin Peninsula in order to prevent German reinforcements from linking up with their German counterparts defending the Normandy coastline. At dawn on D-Day, the Allies would conduct the largest beach landing assault known in history. Once the beachheads were secure, the seaborne force would continue to move inland, exit through the beachhead and drive, eventually, towards Berlin.

One of the over-arching components of the Overlord plan was the landing operation in Normandy, France, code-named Operation Neptune, of which the 82nd Airborne Division would play a major role. The division's operations order for Neptune describes how the they would conduct an airborne assault to seize initial assault objectives for the purpose of blocking any potential German counterattack to reinforce the beach defenses. Accomplishing these critical tasks would allow the Allied landing force to come ashore, to move inland, and to open up the second axis on the European continent.

Though there have been volumes of articles, histories, and books written on the actions of the 82nd Airborne Division on D-Day and the Normandy Invasion, most of the published material chronicles the division's parachute infantry regiments or independent actions taken by Little Groups of Paratroopers (LGOPs), as they often called themselves. It seems little has been written with respect to the division's parachute and glider field artillery battalions and actions they took as a supporting arm to provide timely and accurate artillery fires in support of maneuver objectives. This thesis will examine the actions of the 82nd Airborne Division and the role the division artillery was expected to play in determining whether or not they were of any significance in assisting the infantry regiments in achieving their initial D-Day invasion objectives.

Given the 82nd Airborne Division's previous combat experiences in Sicily and Salerno, what adaptations were made in the planning and development of the concept of operations with regard to the role the division artillery was expected to play in the execution of Operation Neptune? Subordinate questions include: What was the existing doctrine or tactics, techniques, and procedures (TTP) the parachute and glider battalions of the division artillery used in executing their airborne assaults? What were their experiences in parachute drops at Sicily and Salerno, and how did they influence the Normandy Invasion? What planning considerations did the 82nd Airborne Division planners take into account when planning for Operation Neptune? What was the concept of operations and fires for Neptune? How did the operation from D-Day to D+3 actually unfold for the division artillery? Were there any perceived fixes to doctrine or TTP resulting from Operation Neptune?

The concept of airborne warfare was, for the most part, disregarded by United States Army Forces until the onset of World War II. True, the U.S. conducted a few small-scale drops in the early 1920s, but the idea of vertical envelopment had not yet been fully embraced by War Department officials. The Russians, on the other hand, understood and embraced the idea of airborne warfare and saw the potential in dropping large formations of soldiers and equipment behind enemy lines to conduct operations through the delivery means of aircraft. They encountered many problems with post-drop organization, command, and control and faced challenges with their current weapons systems. In the end, the Russians could not work out their problems to allow them to conduct large unit drops. The Germans, too, realized the tremendous possibilities of using aircraft and gliders to vertically insert large combat units that were roughly the size of a

division. Through their experimentation was born the first German Airborne combat division.

Because the United States did not readily subscribe to the concept of airborne warfare as the Germans did, it soon found itself lagging behind a major Axis power in the program's development. It was not until the summer of 1940 that the U.S. organized its first airborne test platoon. By the following summer the Army had organized three airborne battalions and placed them under the command and control of a Provisional Parachute Group of which some participated in the Louisiana and Carolina Maneuvers of 1941.

On 25 March 1942, the 82nd Infantry Division was reactivated and by 15 August 1942, the division was redesignated as the Army's first airborne division: the 82nd Airborne Division. Along with the parachute infantry regiments was the division artillery regiment. The regiment was composed of a headquarters and headquarters battery, two parachute field artillery battalions (PFAB)--the 376th and 456th, and two glider field artillery battalions (GFAB)--the 319th and 320th. With two insertion techniques, the division artillery had to train on the tasks required to rig personnel and equipment for air drop operations, as well as rig or tie down equipment for air-land operations via the glider.

As General Eisenhower and his staff at the Supreme Headquarters Allied Expeditionary Force (SHAEF) began to develop the concept of operations for Operation Overlord, discussion arose between the War Department and General Eisenhower as how best to employ airborne divisions. General Marshall and the War Department thought airborne forces should be used in more of a strategic role and recommended the airborne

divisions parachute in behind enemy lines hundreds of miles away from the Normandy beaches to secure strategic objectives. These strategic objectives were more on the order of enemy airfields that could be seized and secured, thus allowing for follow-on air-land operations with gliders. The airborne forces would continue to operate until seaborne forces could link up with them and then move on to accomplish other objectives. The challenge with this design was that the divisions would be isolated with minimal armor protection for days if not weeks before any sort of linkup operation could be effected. General Eisenhower's view was much more tactical in nature. He preferred to drop the airborne divisions much closer to the beaches, but behind the German units defending the coastline. The limiting factor would be a distance of no more than three days between the two forces (the airborne and seaborne) linking up. After much debate, it was determined the 82nd and 101st Airborne Divisions would conduct a night drop followed by glider landings to cut off the Cotentin Peninsula and set up in blocking positions to prevent German forces from reenforcing the beaches of Normandy, France. The paratroop objectives were essentially behind the German beach defenses and would give the seaborne assault forces time to clear the beaches on Utah and Omaha and move inland, thus moving the invasion of the European continent deeper into its interior.

The 82nd was familiar and fairly well experienced in conducting airborne assaults under combat conditions. Their previous experiences in North Africa, Sicily, and Italy paved the way for refinements to their tactics, techniques and procedures for conducting parachute and glider operations, though they had not been conducted on the scale as proposed by the Overlord planners. Despite the fact that the paratroopers were as trained

and ready as they could be for this type of operation, none of them was prepared for what initially lay ahead.

As D-Day came upon the Allied Forces, the execution of Operation Neptune was met with unforeseen weather conditions, terrain, enemy situation, and friction. As a result, the airborne assault and glider landings did not go as planned. Most paratroopers were dropped well off of their intended drop zones (DZ) and into places they were unfamiliar with. The same consequences were true for the glider insertions--off course and in unfamiliar terrain. Why was this a problem? The plan called for quick seizure of initial objectives by the infantry regiments of the 82nd followed by a linkup with seaborne forces coming in from the Normandy coast. With the majority of the infantry regiments scattered about the French countryside, seizing and securing initial assault objectives were going to be difficult, at best, for the All-Americans. The forces coming ashore were counting on German reinforcements being denied access to the beaches. If the paratroopers failed in their mission, the whole plan for Overlord might have been in jeopardy.

As the problem relates to the division artillery, the scattered airborne field artillerymen had to find their equipment that was dropped in bundles by parachute, de-rig it, and then put the guns back together in firing configuration. Once the guns were back together and able to fire rounds, the airborne field artillerymen had to gain and maintain firing capability by orienting the guns for directional and positional control, as well as take into account all the nonstandard conditions that exist before fires can be accurate. Once all this was done and troopers found guns, the next task was to eventually form back up into batteries and battalions. The same sequence of activities applied to the glider

artillery battalions upon landing. Despite the presence of similar battlefield conditions in Sicily and Italy, the division had not significantly altered their airborne insertion techniques for the paratroopers or glidermen. What then were the adaptations made in planning and concept of operations development for the division artillery in execution of Neptune?

Since the research content for this thesis is historic and uses primary and secondary sources, no assumptions need to be made at this time. Whatever conclusions are derived; they are based purely on historical facts.

There are some terms, words, and acronyms that need to be defined for purposes of use in this thesis. The following definitions are given:

Airborne Forces. Units which are specially organized, trained, and equipped to utilize air transportation for entry into combat. Normally such units will include parachute and glider borne elements. Airborne units should not be confused with other light units which are transported by air which are not specifically organized, trained, nor equipped for this method of movement.

Drop Zone (DZ). The area of ground as defined by higher headquarters where airborne forces, specifically parachutists, will conduct a parachute jump and land on it (hopefully!).

Effective Fire Support. The use of indirect cannon fire as a means to bring about a result.

Initial. As used in the writer's question "during the initial stages of Operation Neptune," initial is defined as the first four days of Operation Neptune. Subsequent to that, the division artillery leadership was able to reorganize their normal command and

control structure at both the regiment and battalion levels and continue the mission.

Landing Zone (LZ). The area of ground as defined by higher headquarters where airborne forces, specifically glider borne soldiers, will conduct glider landings on or into.

The limitations within this thesis are that the division and division artillery's leadership could not be personally interviewed nor has the writer found any evidence thus far that personal histories were taken from a field artilleryman's perspective. This leaves information published in after action reviews, Army Ground Forces (AGF) reports, and numerous books written on the operation with which to draw conclusions from. In addition, the writer will only focus on the actions in Normandy from D-Day to D+3 of the operation. By D+4 the division artillery and its battalions were able to regroup and reform their normal command and control structure. This is also where their fire support responsiveness picks back up.

The focus of this thesis is to determine whether or not the fire support provided was effective in the initial stages of the operation given previous combat experiences. Did they make a difference in the outcome of the fight or enabled the infantry regiments to seize their initial and subsequent assault objectives sooner with less loss of life?

The delimitation of this study is to focus purely on D-Day to D+3 of the operation and nothing more. Also the writer will not provide a written history of all the events that transpired on D-Day from a maneuver perspective. Enough has been written about those subjects and it need not be addressed in this thesis.

Did the actions of the parachute and glider field artillery battalions on D-Day have an impact on airborne doctrine, as it is known today? This can only be found out through looking at the doctrine prior to and during the actual invasion of Normandy.

What was the airborne doctrine? How did the parachute and glider field artillerymen execute it in Normandy? Then, given after-action summaries from postcombat operations, what were the fixes if any to their doctrine or TTP? Has the 82nd Airborne Division and its subordinate regiments taken into account the hard lessons learned from blood, sweat, and sacrifice of paratroopers from earlier operations? This study will hopefully shed some light onto these questions.

The D-Day invasion of Normandy is one of the most documented and researched battle in history. There are enormous amounts of literature on the subject that is extremely useful in finding excellent primary and secondary sources. The writer has found information from books written by people that were actually there and gave first-hand accounts as to the mission, train up, and execution of the operations. There were also books written by noted researchers who interviewed many of the paratroopers that took part in the operation. Additional information was found in archives at the Combined Arms Research Library (CARL) including unit after action reviews, preinvasion conferences, postoperations conferences, operational orders and memoranda, unit studies, and various policies developed for the operation. All this data is specifically focused on the airborne and beach assaults conducted by Allied forces. The World Wide Web has also been an endless source of information. From the Center of Military History to the various presidential libraries that are in existence, these resources provided official histories of the operations as well as unit histories. With all these resources available, it is easy to distinguish fact from fiction. James M. Gavin's book *On to Berlin*, Stephen E. Ambrose *D-Day, June 6, 1944: The Climactic Battle of World War II*, and S. L. A. Marshall's *Night Drop* all recount the actions of the invasion, but hardly talk about the

field artillery and what it accomplished. Most comments state bad drops and loss of equipment rendered indirect fires virtually useless. At best, the parachute and glider artillery was token.

Since the topic of this thesis is historical, all research conducted will be based on archived data and previously written works. This includes examining any doctrine, TTP, policies, training or operational memoranda, and circulars. Information gathered will support the doctrinal aspect of the research questions. Additionally, the writer will examine After Action Reviews, post-operation conference memoranda, articles, and books written that document the sequence of activities or events of the division and division artillery. The focus of research efforts will be on primary and secondary sources that actually participated in the campaign or interviewed the people that were there. Since this thesis provides a historical perspective on combat actions by field artillerymen in Normandy, France, the writer conducted research by examining Army ground forces reports (AGFs), unit after-action reviews and histories, official historical recountings of the operation, and numerous books on D-Day that include personal experiences and firsthand accounts.

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[1]Stephen Ambrose, *D-Day, June 6, 1944: The Climactic Battle of World War II* (New York: Simon & Schuster, 1995), 26.

[2]James M. Gavin, *On to Berlin* (New York: The Viking Press, 1978), 1.

[3]Ambrose, 28.

[4]Ibid., 28.

[5]Ibid., 39.

[6]Ibid., 39.

CHAPTER 2

AIRBORNE DOCTRINE

A rude awakening by a sharp slap in the face is how the U.S. military felt when it came to realize just how far behind it was in developing airborne operations doctrine. While they were looking at and testing concepts with platoons and small organizations, the Germans had completed their final stages of combining large unit formations with an air transport fleet in February 1942. How could the U.S. have fallen so far behind an Axis power? Most likely the reason was that the top officials in the U.S. military could not agree on the use of airborne and glider troops, let alone agree on the concept of the vertical envelopment. Nevertheless, knowing they were now well behind the Germans in airborne organizations and operations, the U.S. moved forward with great purpose.

From the early days of the airborne test platoon, U.S. airborne doctrine quickly took form and shaped how the 82nd Airborne Division would conduct parachute drops as well as glider operations in upcoming combat operations. The doctrine covered the general tactics and techniques for individual parachutists through regimental-sized infantry units, but did not cover parachute field artillery or glider artillery fundamentals. As a jumping point from doctrine, the Field Artillery School at Fort Sill, Oklahoma, published a memorandum of instruction on the employment of airborne field artillery that embraced the principles of FM 31-30, *Tactics and Technique of Air-borne Troops*, dated May 1942, and tailored the doctrine specifically for airborne and glider field artillery units. It is here that an examination will be made of the basic airborne doctrine governing parachute operations, as well as look at how the parachute and glider field artillery nested within the over-arching War Department doctrine as they prepared for combat operations.

Initial discussions among senior War Department officials "rested upon a general assumption that these (airborne) troops would be employed principally in small detachments for demolition work in enemy rear areas."[1] That idea soon gave way to the concept that "parachute troops should be used as assault units to seize and hold airheads for air-landing troops."[2] As further study of the concept continued, neither of the two previously mentioned theories would become the basis for U.S. Army airborne operations. What did become doctrine for the U.S. Army was the Basic Field Manual 31-30, *Tactics and Technique of Air-borne Troops,* dated May 1942. Its premise regarded parachute troops as "the spearhead of a vertical envelopment or the advance guard element of air landing troops or other forces"[3] and required them to jump in and "capture suitable landing areas by small detachments . . . and hold the airhead until relieved by either glider- or airplane-landed reinforcements."[4] Despite the stated doctrine and purpose for airborne operations, this methodology of vertical envelopment would not be used in any operation in the European Theater during World War II. Instead, a new statement of doctrine would emerge based on earlier combat experiences in Sicily and Salerno to form the basis for airborne and glider doctrine in Overlord. So what was the doctrine or TTP for glider and parachute troopers?

Parachute troops are soldiers that are transported by air and inserted into an area by means of parachute. They are "specially trained, equipped, and organized for the purpose of executing missions in areas not immediately accessible to other friendly troops."[5] The missions assigned parachute units were many, but the one most common for conducting an airborne assault was to seize and hold suitable terrain that would allow gliders or troop-carrying airplanes to land. Since parachute troops were considered the

spearhead of a vertical envelopment or the advance guard element of air-landing troops or other forces. Other missions they might be given were to seize bridgeheads, to attack enemy rear areas, to destroy supply or command and control installations, to operate in conjunction with other forces, and to create confusion and chaos on the battlefield to divert a main effort attack.

The success of the airborne troops required decisive action immediately upon landing on their part and would depend "largely upon rapid execution of missions assigned to subordinate units."[6] Failure on any part of the airborne units participating in the operation could result in tactical loss for the airborne forces participating. In addition to having specific missions, the parachute troops also had limited objectives. The reason for this is because they were such a light force and essentially fought with the equipment they jumped in or dropped in with. Their only means of supply or support in the early stages of an operation was from the air. Hence, they could not take and hold objectives for any great length of time. "The maximum time they can hold an objective depends largely upon the hostile situation and reaction, and upon the effectiveness of their air support."[7] Consequently, parachute forces were used to seize objectives where reinforcements would arrive quickly or their objectives would be deserted or destroyed.

Though not included in doctrine, but in the back of some senior army leadership thinking, was the "possible use of airborne forces to win strategic objectives--to seize and maintain an airhead from which an offensive could be launched without immediate ground support."[8] This type of operation would require airborne forces to conduct a parachute assault to seize and secure an airfield in order to land gliders and other aircraft to build up sufficient combat power to launch a ground attack. This concept was

predicated on an assumption that link up with other forces would not take longer than three days from when the parachute assault occurred. Generals Arnold and Marshall would later push the notion of strategic employment for parachute forces as a recommendation to General Eisenhower as he began operational planning for the invasion of Normandy. It also would be a point of dispute between the War Department and Eisenhower.

Command and control of parachute forces was also an issue "because of the unavoidable dispersion incident to mass parachute jumping, and the necessity for speed, initial combat takes the form of quick, aggressive, coordinated action by individuals and small groups. . . . [O]rders of all parachute units must stress flexibility of operation."[9] Because of the command and control or possible lack thereof, principles of employment were weaved into the doctrine. Among them was the presence of the element of surprise, the use of parachute troops for missions that other troops would not perform, and the necessity to use combat aviation "in flight and during landing, and for supporting fires before, during, and after landing."[10] Aside from some of the unique aspects of parachute operations and employment of its forces, the types of offensive and defensive operations conducted were no different from those any standard infantry unit would perform.

Training of parachute forces was done in four phases: "basic training, individual technical parachute training, unit training, and combined training."[11] Basic training for an airborne trooper was essentially the same as that of any infantry soldier. It was conducted at the infantry replacement training center. The individual technical parachute training was conducted at the parachute school, and combined training was done within the airborne unit as often as possible. What differed was the training conducted in the

parachute unit. Most of the training conducted in the parachute units was much the same as that of a standard infantry unit. The big difference was:

> All parachutists must be qualified to handle all platoon weapons, and receive training in such specialized subjects as care, maintenance, and packing of the parachute, and parachute jumping. In addition, parachute troops must be trained in executing demolitions.[12]

Air-landing troops were "carried in powered aircraft, or in gliders towed behind aircraft, who disembark after the aircraft or glider reaches the ground."[13] These troops, when configured into units or task forces, were "specially organized and trained in air landing operations and were better adapted to employment on air landing missions than were standard units."[14] This is not to say air-landing troops, organized as such, did not perform standard missions or those missions that standard units would perform. Instead, when combined into large unit formations, air-landing units could take on the following missions:

> The mission of the leading echelons of air landing troops is usually to broaden and deepen the combat area established by parachute troops, to assist them in the capture and clearing of landing fields, to relieve parachute troops holding critical areas, and to make landing fields secure from attack so that they may be used by following echelons . . . also sometimes used as a mobile reserve for employment in critical areas when means of transportation other than aircraft are unsuitable or unavailable.[15]

Given the typically special missions they would perform, the air-landing commanders, staffs, and troops underwent specialized training in order to allow them successful mission accomplishment. Commanders and staffs would focus on the following:

1) Logistics of enplaning troops, equipment, and supplies.

2) Planning and execution of tactical operations requiring unusually precise coordination with air forces, parachute troops, and other supporting arms.

3) Communication with supporting aviation, parachute troops, and task force headquarters.[16]

Troops trained on many of the same tasks, but at a lower level of responsibility. They learned how to enplane and deplane personnel, equipment, and supplies; to operate small arms; to destroy buildings, bridges, command and control sites, and public utilities; and to operate captured enemy weapons to name a few. Additionally, special emphasis was placed on troopers to accomplish the mission as soon as they deplaned their gliders or aircraft and to operate in small groups should they become disorganized upon landing. Just as specialized training was an important factor for air-landing or glider troops, so too was the time needed to properly plan and prepare for any such operation.

> The time required by air landing units for preparation and planning depends upon the extent of any reorganization and special training required for the projected operation, and the complexity of arrangements necessary to insure coordinated action with supporting troops, particularly with the air task force.[17]

Aside from reorganization or other special training requirements, the other principles of planning in terms of orders and information from higher headquarters, information on the enemy, maps, and any aerial photography, were the same for the air-landing force as the standard units. What was a little different was the type of initial objectives given to air-landing troops. They included "hostile prepared positions . . . antiaircraft guns . . . hostile observation . . . hostile reserves . . . hostile communications . . . and hostile transportation."[18] When units received their missions from higher headquarters, they began their own internal planning. As they developed courses of action, air-landing task forces began to shape their task organization--how they would organize their forces to achieve their stated purpose in the mission. As mission plans and task organization were completed, the next phase in their preparations was to marshal personnel and equipment

and prepare for glider landings. It was no small feat to plan, organize, marshal, and load so many soldiers and their equipment. Loading officers at the brigade and battalion task force level were required to undertake this daunting task of getting people and equipment to the right aircraft at the right place and time. Loading tables were used for both the air-landing soldiers and their organizational equipment and had to be "flexible, owing to the variety of types of transport planes . . . on unit loading principles and on the cargo weights and passenger capacities of the planes provided."[19]

As the task force formations completed the loading of aircraft and personnel for take off, communications between the forces became critical. They included "communication between air-landing troops and supporting aviation . . . panel communication with combat aircraft . . . use of pyrotechnics . . . ground to plane . . . air-ground voice radio . . . and communication between air landing units and other ground elements."[20] These different forms of communication were meant to aide the commander in maintaining close coordination between his forces and supporting forces as they prepared to take off, during flight and then actions upon landing in hostile territory. In cases where air-landing troops landed at a secured airfield, those task forces would conduct operations similar to that of standard units. The other side of the doctrine describes actions by glider or air-landing forces conducting tactical operations against an active, hostile opposition.

> Operations of air landing troops which land shortly after the initial attack of parachute troops are characterized by-
>
> 1) Speed.
> 2) Initiative on the part of all commanders.
> 3) Boldness, in order to take maximum advantage of initial surprise.

4) Lack of supporting fires except by combat aviation.[21]

Tactical units were loaded by unit, in as much as possible, in order to preserve unit integrity and assist small-unit leaders in rapid assembly of their men upon landing prior to carrying out their mission. Immediately upon landing, troops would deplane and take as much of their supplies and equipment as possible and, under senior officer and noncommissioned officer leadership, move toward their initial rallying point or rendezvous point. At the rallying point, troopers would secure the area and wait for the rest of their unit to assemble. "As each unit is assembled its commander sends a report to the next higher unit"[22] to inform the headquarters of any casualties taken, changes to the tactical situation, or the fact that the unit is going to carry out its stated mission. One additional aspect of battlefield coordination is the detailing of a liaison officer from the parachute troops to the air-landing troops. This liaison officer informs the newly landed troopers of the status of parachute operations in the area as initial objectives are being accomplished.

Once initial objectives are achieved, commanders begin looking to future operations that involve subsequent objectives. These attacks must be coordinated with adjacent units and "initiated only on orders of the task force commander or his representative."[23] In the event that communications are severed or interrupted between higher or adjacent units, the task force commander may use initiative to continue the attack.

Before ordering a continuation of the attack, a commander must consider:

1) The importance of exploiting to the maximum the initial advantage of surprise.

2) The importance of the objective selected relative to the success of the operation.

3) The necessity for occupation of strong defensive positions for the night.

4) The plan of the task force commander, particularly as to time of landing of additional troops and for continuation of the attack after initial objective are captured.[24]

The objectives for these attacks could either be specified in the units' original order or determined on the ground as the situation has changed. If the latter is the case, the commander must pick the objective that would further accomplish the mission or falls in line with the higher commanders' intent for the operation. In considering attacks beyond initial objectives, the task force commander should consider the following: "attack to contact troops landing in adjacent areas . . . separation of elements of the enemy forces . . . hostile artillery . . . and orders."[25]

Air-landing or glider doctrine did differ somewhat from that of standard units in that a much greater emphasis was placed on planning and preparation through the execution of tactical operations. Planning involved developing specific courses of action tailored to air-landing force initial objectives and then task organizing the force to accomplish the mission. With task organization and special missions came the task of specific training for the troops as well as configuring the personnel and equipment for loading on various types of air transport aircraft. During all these activities, communications and coordination were paramount in order to allow the forces to arrive in the area of operation with a good understanding of the tactical situation. Upon landing, the force would deplane, assemble on rally points, and once accountability of personnel and equipment was achieved, move out to secure initial objectives. As the initial

objectives were secure, the commander of the air-land task forces would continue the attack by achieving subsequent objectives. The success of the air-landing or glider forces would depend, for the most part, on the success or failure of the parachute troops who were suppose to drop into the area of operations ahead of the landing force.

Having examined the overarching concepts of parachute and glider doctrine, as well as individual training, the focus is next on the airborne division. The airborne division was an organization comprised of different arms and was organized tactically to perform its combat mission that sometimes required independent action for limited time periods. The division was capable of inserting itself into a combat area by way of parachute and glider and normally worked with other ground forces or was reinforced by other ground forces, but "not capable of prolonged, sustained action"[26] because of the very nature of its organization.

At the core of the division were the infantry regiments consisting of one parachute regiment with a field artillery battalion and two glider regiments, each with its own field artillery battalion. These three regiments allowed the division to task organize itself into three flexible air teams, tailored to specific tactical mission requirements. Though the division was not formed and organized for this purpose solely, it did give the commander tactical flexibility in the event the need arose.

The artillery component to the air team was an integral part although it was on a temporary basis. Its employment with the infantry regiments was termed as centralized or decentralized. "When centralized, it is under the command of the division artillery commander; when decentralized it is under the command of the air team commander."[27] Regardless of the support relationships, the sole purpose for the artillery was to provide

close, supporting fires to the airborne infantry although it was understood that support would be greatly decentralized immediately upon landing. The principles that governed the employment of airborne artillery were no different from the rest of the artillery arm with the exception of one distinct characteristic. “In the initial phase of its employment, airborne field artillery may have to function with control decentralized down to individual howitzer sections,”[28] departing from previous operational plans. This individual action required artillery commanders to incorporate initiative and flexibility into their unit plans, so that the necessary fires could be provided to the tactical commander with whatever means was available at the time.

Some of the other distinctive characteristics of the employment of airborne field artillery were:

(1) Movement of howitzer (gun), supplies and equipment by hand.

(2) Initial fires of a defensive nature for the protection of rallying and assembly areas.

(3) Preparation to support an attack in any direction.

(4) Forward observation methods of fire adjustment, including rocket and other rapid methods.[29]

This list was not all encompassing, but highlighted the unique difficulty in employing this type of artillery force in an operation. Needless to say, a well-thoughtout plan that was flexible allowed for initiative and that was rehearsed prior to execution would enable the airborne trooper to face and solve many of the problems on the battlefield.

“The airborne division’s organic artillery consists of a division artillery headquarters, headquarters battery, and three battalions, one parachute and two glider.”[30] Within the parachute battalion was a headquarters and a headquarters and service battery,

three howitzer batteries of four, 75-millimeter pack howitzers, and an antiaircraft (AA) and antitank (AT) battery. Each of the glider battalions consisted of a headquarters and a headquarters and service battery and two six-gun, 75-millimeter pack howitzer batteries. The howitzers in both the parachute and glider battalions had a modified carriage, M8, which allowed it to be broken down into loads for dropping, as well as air transportability. In addition, the wheels of the pack 75 had steel disks and rims in place of wooden wheels to allow for better mobility.

The mission of the parachute field artillery battalions was to "render fire in close support of airborne infantry, normally parachute infantry, in the tactical operations after dropping."[31] One of the techniques employed by airborne forces was to drop an artillery battery right after the lead infantry unit in order to provide security from possible mechanized counterattacks, as well as provide fires to assist maneuver units in reducing an enemy strong point or points of resistance following the landing. The gun sections would meet at the location designated by the section chief, who would take the following actions:

(1) Move load on which other loads are assembled to the nearest available cover.

(2) Move all howitzer and ammunition loads to the assembly load and assemble the howitzer.

(3) See that the howitzer section is prepared for all-round security.

(4) Has covered route to predesignated battery rallying area reconnoitered.

(5) Contacts infantry elements in the vicinity and immediately takes under fire any enemy targets that are interfering with the landing or reorganization.

(6) Moves his section to the battery rallying area as soon as the opportunity is afforded.[32]

As the sections arrived at their rally point, the location, tube, and personnel status was forwarded to the battery commander. “Every effort was made to assemble the sections of a battery quickly, so as to gain centralized control and permit the fire power of all four howitzers to be employed as a unit.”[33] The same methodology applied to assembling as battalion and division artillery.

In order for the parachute field artillery battalion to get to its intended DZ, the battalion required a total of fifty-two C-47 aircraft. Four planes were required for the headquarters battery, and twelve aircraft each for the three firing batteries, the antiaircraft battery, and the antitank battery. For planning purposes, the battalion only used forty aircraft since the AA and AT battery was used to protect the entire force as opposed to just the battalion. Their aircraft numbers were not figured in the battalion allocation. When the headquarters battery loaded the aircraft, the primary staff and subordinates cross-loaded, or disbursed themselves, across all four of their aircraft. This was so in the event one of the planes went down, whether it was due to maintenance problems or shot out of the sky, the battery and staff would still be able to perform their mission and function with the majority of their personnel. Loading firing battery personnel and equipment was much the same. “In general, a howitzer section is loaded in a flight of three airplanes with the remainder of the battery distributed throughout the twelve planes of the battery.”[34] This allowed each howitzer section the ability to operate independently once it landed and also allowed the battery to continue to perform as a unit should one of the aircraft go down.

The mission of the glider field artillery was the same as parachute artillery, except they normally provided fires to glider infantry after landing. Their landing areas were

secured and protected by parachute troops or glider infantry elements prior to their arrival. The glider field artillerymen went into action much the same way as the parachute artillerymen--by section, platoon, or battery. What was different was the time expected to assemble forces and gain centralized command and control by the battery or battalion. One of the reasons this task was made possible was due to the chief of section actions. Immediately upon landing the chief of section will:

(1) Disembark personnel, materiel, and equipment from the glider.

(2) Has covered routes to predesignated battery rallying area reconnoitered.

(3) Couples the howitzer to ¼-ton truck and directs its movement off the landing area.

(4) Has truck return to transport equipment, supplies and ammunition off the landing area.

(5) Moves gliders off the landing area.

(6) Contacts infantry elements in the vicinity and immediately takes under fire any enemy targets that are interfering with the landing or reorganization.

(7) Moves section to battery rallying area and reports its arrival as soon as the opportunity is afforded.[35]

Although the glider landing areas are secured and protected, enemy aircraft and changes in the enemy situation make it paramount that forces disembark, organize, and move off the LZ as quickly as possible.

Although the glider field artillery battalion consisted of a headquarters and a headquarters and service battery and of two batteries of six, 75-millimeter pack howitzers each, there were some instances where the battalions were "issued the 105-mm howitzer M3 in lieu of the standard weapon for any air-transported operation."[36] To get a glider field artillery battalion into combat required sixty-six CG-4 gliders. "Fourteen gliders for

the headquarters battery and twenty-six for each howitzer battery."[37] When the loading plan for the gliders was being developed, the unit cross-loaded battalion staff and headquarters battery personnel across all fourteen gliders in order to reduce the risk of losing large numbers of key and essential personnel. This also allowed the unit to function in its entirety and complete the mission in the event one of the gliders did not make it. The firing batteries cross-loaded their personnel and equipment by placing the battery command and a reduced headquarters in one glider and dispersing the rest of the battery headquarters and the executive officer across three other gliders. Each howitzer section was cross-loaded over two gliders for a "total of twelve for the firing battery; six transport the ammunition section and four transport the maintenance section and the balance of the ammunition."[38]

Once the War Department realized it was well behind the Axis Powers in development of an airborne force capable of vertical envelopment, it quickly took action to fix the problem. Basic Field Manual (FM) 31-30 evolved in 1942 and became the baseline doctrine for airborne forces that conceptualized the individual parachutist through infantry regimental actions. From that FM, the Field Artillery Center at Fort Sill, Oklahoma, published an instruction memorandum in January 1943 that detailed the actions of both parachute and glider howitzer sections, as well as prescribing the organization and composition of the airborne battery through the division artillery. These were the basic fundamentals for incorporating the fire support arm into the maneuver task force, but much more planning and testing were required in order to develop field-proven techniques that would stand the test of battle. Thus in February 1942, "the War

Department authorized the activation of a test battery to conduct experiments to determine the feasibility of parachute artillery."[39]

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[1]U.S. Army Center of Military History, *U.S. Airborne Doctrinal Concepts* (6 October 2003), 1; [document on line]; available from http://www.army.mil/cmh-pg/documents/abnops/taba.htm; Internet.

[2]Ibid., 1.

[3]War Department, Field Manual 31-30, *Tactics and Technique of Air-borne Troops* (20 May 1942), 32.

[4]U.S. Army Center of Military History, *U.S. Airborne Doctrinal Concepts*, 1.

[5]Ibid., 31.

[6]Ibid., 32.

[7]Ibid.

[8]Dr. James A. Huston, "Thoughts on the American Airborne Effort in World War II," *Military Review*, 3-13, 8.needs date vol# series #

[9]War Department, Field Manual 31-30, 33.

[10]Ibid.

[11]Ibid., 61.

[12]Ibid., 61.

[13]War Department, Field Manual 31-30, 1.

[14]Ibid., 8.

[15]Ibid., 2.

[16]Ibid., 3.

[17]Ibid., 8.

[18]Ibid., 10, 11.

[19]Ibid., 20.

[20]Ibid., 14-17.

[21]Ibid., 24.

[22]Ibid., 25.

[23]Ibid., 26.

[24]Ibid.

[25]Ibid., 27.

[26]Field Artillery School, “Instruction Memorandum, *Employment of Airborne Field Artillery*,” January 1943, 4.

[27]Ibid., 5.

[28]Ibid., 6-7.

[29]Ibid., 7.

[30]Ibid..

[31]Ibid., 9.

[32]Ibid., 11.

[33]Ibid., 10.

[34]Ibid., 14-15.

[35]Ibid., 17.

[36]Ibid., 21.

[37]Ibid., 19.

[38]Ibid.

[39]Capt. Lucian B. Cox and Lt. Herbert E. Armstrong, “The Pack Howitzer Hits the Silk,” *Field Artillery Journal* (April 1943): 257.

CHAPTER 3

FROM PARACHUTE TEST BATTERY TO COMBAT OPERATIONS IN SICILY AND ITALY

With the publication of the "Instruction Memorandum on the Employment of Airborne Field Artillery" in January 1943 by the Field Artillery School at Fort Sill, Oklahoma, the next step for the U.S. Army was to take the experimental doctrine and "determine the feasibility of parachute artillery."[1] The design of the new field artillery units was to add the necessary firepower for the parachute infantry. The officers and soldiers of the 4th Field Artillery (Pack (Pk) Howitzer (How)) Battalion successfully conducted a parachute drop of a pack howitzer in the winter of 1941 at Fort Bragg, North Carolina. According to Lieutenant Cox, the test batter executive officer, "The purpose of the experimentation was to develop a means of rapidly getting the howitzer into inaccessible places."[2] Though this drop happened as the doctrine was being written for the field artillery, no thought had been given, at that time, to drop the gun crews as well!

Realizing the need to incorporate the fire support arm with the parachute infantry, "the War Department authorized, on 24 February 1942, the activation of a test battery to conduct experiments to determine the feasibility of parachute artillery."[3] Four officers and 150 enlisted men were picked from a pool of volunteers from existing field artillery units at Fort Bragg, North Carolina, to form the first test battery. These men were not parachute qualified or indoctrinated into the airborne culture at the time, so their first order of business was to become full-fledged parachutists.

The first task for members of the battery was to pass the Parachute Course at Fort Benning, Georgia. The course lasted four weeks and was divided into four stages, each lasting one week in duration. During the mornings of the first three stages, the men

learned the art of parachute packing and the nomenclature for all items or pieces of equipment they would use. In the afternoon of Stage "A" the battery personnel dedicated their time to "tumbling, calisthenics, trampoline, and the much dreaded double-time."[4] "B" Stage provided training on such devices at the swing landing trainer, trainaseum (device used to train paratroopers on the proper technique for executing parachute landing falls), and suspended harness. In addition, the men practiced exiting procedures from a mock-up aircraft and did more tumbling and running. In Stage "C, the soldiers experienced the 'free falling' towers that took them up in the air to 500 feet and then released them (under canopy) to float to the ground, allowing the men to work on canopy control and landings. The last stage, Stage 'D', gave the future paratroopers the chance to test our 'chute-packing ability by making five jumps . . . from a plane in flight."[5] At the conclusion of the final stage, 4 officers and 112 men of the Parachute Test Battery remained and on 17 April 1942, these men became the first qualified parachute artillerymen in the history of the Army.

The next challenge the battery leadership faced was training the cannoneers on the use and employment of the 75-millimeter pack howitzer, as well as developing techniques for conducting a parachute jump onto their equipment and getting the gun into position and ready to fire. On their way to accomplishing these tasks, many challenges presented themselves. The first order of business was to figure out how to disassemble and rig the howitzer for parachute drop. The aircraft the battery used were the C-53 and C-47 troop transport aircraft. Though the C-53 was mentioned, the C-47 was the predominant workhorse for the airborne. The plane was fitted with six streamlined external delivery racks, which could be attached to bomb shackles on the bottom of the

fuselage. The howitzer was broken down into nine loads, M1 to M9, and "were packed in standard Air Corps aerial delivery units--cylindrical, padded canvas containers."[6] Two of the containers were modified to fit the front and rear trails. Appendix A contains the packing list used by parachute artillerymen to rig and drop the 75-millimeter Pack Howitzer and its associated equipment.

As the testing of feasibility continued the evolution of the Table of Organization (TO) and Table of Basic Allowances (T/BA) began to take form. The principal factors governing particular personnel and items considered for dropping were:

(a) Can it be dropped by parachute?
(b) Is there available space and pay-load allowance in assigned airplanes?
(c) Is there available transportation after the initial parachute landing?
(d) Is it useful in the probable tactical employment of artillery units?[7]

Although vehicles could be dropped by parachute, they were subsequently discarded as nonessential due to bulk and weight factors that would change aircraft load plans and limit the number of artillerymen able to jump given the limited number of drop aircraft available. Leaving these large vehicles off the T/BA caused such things as heavy wire laying equipment, large radios, some heavy fire control, and topographic equipment to be deleted from the T/BA as well. As a fix, smaller and lighter items of equipment that belonged to other branches of service proved to be superb substitutes for the often heavy and bulky artillery equipment. Consequently, those items were added to the unit's basic allowance. These changes did not, in any way, hamper or prevent the field artillery from performing its mission of providing accurate, responsive fires. All of the howitzer's primary fire control equipment, such as sights and aiming circles, etcetera were not modified.

In addition to the factors previously mentioned as governing the selection of basic items of equipment, "we were agreed that every possible effort should be made to make each plane-load a self-sufficient howitzer section."[8] The leadership of the test battery recommended that each plane carry a howitzer, its tool set, communications equipment, ammunition, and instruments necessary to lay the piece indirectly (gun sights, etc.). Because of weight factors, only twenty-five to thirty rounds of ammunition could be carried on any one plane that had a howitzer loaded on it. The battery leadership felt that was a sufficient amount during the initial stages of the drop as other aircraft would bring in the balance of the ammunition. As Lieutenant Cox noted, "We decided that a howitzer with a dozen rounds is worth considerably more than half a howitzer with a thousand rounds"[9] and were well aware of the risks and limitations associated with their decision.

A concerted, collaborative effort by everyone involved in the test battery project made possible the evolution of a unique combat unit. The fundamental characteristics of field artillery operations in terms of occupation of a position, laying the guns for directional control and the conduct of processing fire missions were still in place. What did change was a lot of the no-less-significant smaller pieces of equipment--they were either modified or substituted with more relevant items from other branches of the service. The loading plans the battery developed called for a complete howitzer and its crew jump or drop from the same plane. This enabled them to account for any contingency in the event any one aircraft did not make it to the DZ. Lieutenant Cox adds, "Thus, conceivably, a single transport might reach the objective and its one howitzer section land and deliver effective fire within ten minutes."[10]

On 23 April 1942, the battery executed its first drop of both howitzer and personnel simultaneously with great success. This jump forged the way for more revisions in their dropping techniques. These revisions required officers and key leaders to jump with small map boards and binoculars and dictated the following actions for the gun crews upon reaching the DZ: door bundles were pushed out, followed immediately by the first jumper. As the troopers were exiting the aircraft, the bundles slung under the belly of the aircraft were being released. Each member of the howitzer section was assigned a responsibility to bring a specific piece of equipment to the assembly point. To assist each soldier, "various colored 'chutes were used so that the cannoneers could identify the loads they were to retrieve-they could spot these while they were still in the air and maneuver their own 'chutes toward them."[11] This technique proved quite effective during daylight training jumps, but would prove difficult during jumps in the middle of the night. The section chief would designate the assembly point when he located the front trail of the howitzer and held up its parachute so the rest of the men would assemble on him and the gun. Every section member that came to the piece would help out by carrying parts of the gun to the assembly point in order to expedite re-assembling the gun and gaining firing capability.

Since the test battery had not figured into their T/BA vehicles for airdrop, once the gun was assembled on the DZ, it had to be manhandled into position. This did not seem so unfeasible to the men of the battery for "it seems improbable that we will jump as far as 12 miles from our combat objective."[12] Little did they know what would await them on the night of 5 June 1944.

The test battery continued to make jumps, honing its skills until the battery was activated as a battalion on 24 September 1942. Despite all the tests conducted, very few men had been injured and little equipment was damaged. This was a tremendous achievement for the men and others associated with the test. Now a battalion, the airborne field artillerymen had the confidence that their new branch of service was here to stay and more viable than ever. As Lieutenant Cox argued,

> This new Army will establish its bridgeheads in the dark of night, riding on silent silken wings-and each bridgehead will be prepared for the armored car and tank to which the infantry had been so vulnerable. Engineer parachutists will be building landing fields overnight so that airborne troops may be poured into the breech. And, supporting the doughboys with its greater fire power, the Parachute Artillery will be hitting the silk.[13]

Now that the War Department finally had the initial composition of an airborne division, its task now was to complete the organization of the division and find a suitable location for its home base. In the later months of 1942, the 82nd Airborne Division found itself moving from initial posts at Camp Claiborne, Louisiana, and Fort Benning, Georgia, to its new home at Fort Bragg, North Carolina. The organization of the division consisted of one parachute combat team and two glider combat teams (CT). Around 15 February 1943, "The 505th Parachute CT was substituted for the 326th Glider CT although the artillery (320th GFA) of this latter CT remained in the division. The division then consisted of the 505th PCT, the 504th PCT and the 325th GCT."[14]

On 28 April 1943, the division left its home at Fort Bragg and began deployment to North Africa in preparation for future combat operations in Sicily and Italy. By 12 May the division had arrived and began to establish itself in bivouac at Les Angades Airfield, Oujda, Morocco (less the 325th GCT, which set up camp at Marnia). Additionally, they organized themselves into combat teams and Division Special Troops.

The Division Artillery was broken down as follows: the 456th Parachute Field Artillery (PFA) was assigned to the 505th PCT, the 376th PFA assigned to the 504th PCT, the 319th Glider Field Artillery (GFA) assigned to the 325th GCT, and the 320th GFA was under Division Artillery Control. The combat teams of the division spent the next two months in "intensive training prepatory to parachuting into Sicily."[15]

Preinvasion training consisted of enhancing rifle marksmanship techniques, squad and section light machine-gun firing, mortar live fires, and basic close quarter combatives (hand-to-hand fighting). This applied to all paratroopers, including the field artillerymen. Their training day started early in the morning with a break during the heat of the day, followed by more training well into the night. Troopers spent the majority of their time firing their weapons individually and as part of a squad or section and were required to achieve a certain standard of efficiency in group marksmanship. Those subunits that failed to qualify had to retest until they could achieve the required standard. Troopers also conducted hand-grenade and bayonet training, as well as commando-type, hand-to-hand combat techniques for close-quarter fighting. The division also placed great emphasis on Battalion Combat Team (CT) training and it is at the battalion level that the field artillery batteries were able to move, shoot, and communicate as a battery instead of training on individual soldier proficiency. Once the 52nd Troop Carrier Wing arrived in theater, the division could begin combined training in earnest.

The wing arrived in the theater qualified for daylight operations involving parachute drops and formation flying over familiar terrain, but "unqualified for night operations."[16] In order to get qualified for night operations, the wing focused their efforts on night flying with emphasis on formation and navigational flying with navigational and

resin lights. As it achieved a qualified status, the wing began to conduct nighttime parachute drops that were not without problems. According to the men of the 456th PFA, "These night-time exercises . . . brought to light a grave weakness in night-time parachute operations--it was extremely difficult for pilots to locate drop zones in the dark."[17] As a means to assist the pilots in identifying their intended DZs, the airborne community developed the pathfinder concept. This concept involved taking the most seasoned and experienced pilots and navigators and dropping a select group of paratroopers, known as pathfinders, onto a DZ. The pathfinders would set up the DZ by marking it with lights or setting up electronic equipment, so that the large aircraft formations could home in on the beacon or lights. Though this technique was not perfected for Sicily, it was put in use during the drops over Normandy.

Another huge challenge the division faced during its intensive training was coping with severe weather that included substantial, gale-force winds, which would whip over the barren North African landscape, making parachute operations extremely dangerous. In a report on airborne operations from Headquarters, Fifth Army Airborne Training Center, the after-action review noted that "two large daylight drops were made. These drops were made under adverse jumping conditions. The injury rate for parachutists was high and the division CG curtailed dropping"[18] until such a time as the weather was within safety parameters. When the division was able to conduct parachute operations again, it did a nighttime drop and encountered many of the same problems as with the daylight drops--inexperienced flight crews had a hard time finding the DZ, winds tended to blow the jumpers off course and scatter the formations and the rocky, rugged terrain caused many injuries which led to some fatalities. The men of the 456th PFA

encountered the same problems as the rest of the task force--scattered jumpers, numerous injuries, and a tough time assembling in the darkness. For many of the troopers, this was their first time jumping during hours of darkness.

Sicily provided the supreme test in 1943 for airborne operations because it was the first time an American airborne division would conduct a nighttime parachute assault under combat conditions. The invasion plan called for the Seventh U.S. Army and the British Eighth Army to make a series of parachute assaults in conjunction with simultaneous seaborne assaults, on the southeast coast of the island. The parachute forces would jump in to seize key terrain and block any attempts of the enemy from reinforcing the beachheads, thus allowing the advance inland. The amphibious landings would cover an area that almost stretched over one hundred miles of coastline from Cap Murro di Porco located just south of Syracuse and around the southeastern tip of Sicily, west to Licata. The British troops would conduct their landing on the right with the American forces going in on the left. Immediate objectives were the ports of Syracuse and Licata, as well as the airfields between those two ports.

The airborne portion of the invasion plan, codenamed Operation Husky-Bigot, was a combined airborne operation of American and British forces with D-Day set for 10 July 1943. For the operation, the 51st and 52nd Troop Carrier Wings along with two British squadrons would be responsible for providing aircraft and gliders to both the American and British parachute and glider forces for the invasion. Because of their limited resources, only 250 C-47s were allocated to the 82nd for the entire operation. The small number of aircraft would constrain the division and force it to drop only one combat team initially, then sequence the rest of its combat teams into the fight with

whatever number of aircraft that survived the initial drops on D-1. Thus the mission of the 82nd was to drop the 505th PCT, minus the 456th PFA, with a reinforced battalion from the 504th on the night of D-1 (9 July) "behind the Gela beachhead to block Axis counter-attacks"[19] in order to support a 1st Infantry Division (U.S.) landing. The remainder of the 504th along with the 376th PFA was to be prepared by D-Day night to drop as directed on D+1 or D+2 behind friendly lines and act as a supporting ground unit. "Gliders were not even considered for use in the assault phase of the invasion,"[20] hence the 325th GCT and supporting 320th GFA would be prepared to land on captured enemy airfields during daylight behind friendly lines on or around D+3 or D+4, once enemy air resistance was reduced.

With the details of Operation Husky in place and D-Day on the horizon, the men of the division moved to their staging base in preparation for the drop on 16 June 1943. The staging base was located as close to Sicily as possible, in Kairouan, Tunisia, where the Army Corps of Engineers had built makeshift airstrips. The division was still trying to qualify jumpers and aircrews during this time in order to avoid going into combat ill prepared and less than full strength. As a result, "the Regimental Combat Team (RCT) dress rehearsal of the 505th and 504th CTs jumps on DZs approximating those to be encountered in the actual operations were eliminated."[21] The division lost two weeks of critical training time just prior to the operation because the 52d Troop Carrier (TC) Wing was shuttling soldiers and equipment from Morocco to Tunisia and failed to take seriously the level of experience needed to drop parachute troops and equipment at night under combat conditions. Had the Wing taken a more serious approach in its training, the outcome of the operation might have been different.

Operation Husky began with violent windstorms developing over the Mediterranean Sea on the morning of 9 July 1943. Paratroopers of the 505th CT would make their first combat jump in severe weather conditions with winds at unacceptable safety levels in excess of twenty miles per hour. Despite the bad weather, the invasion was neither delayed nor called off. "In 226 C-47's, the 505 Combat Team left ten airfields near Kairouan at dusk on the night of 9 July. The 456 (PFA) was widely dispersed among the serials--the firing Batteries prepared with 1512 rounds of ammunition."[22] The after-action report from the Fifth Army Airborne Training Center on Operation Husky provides the following in regard to the drop:

> The takeoff was well conducted. By dusk the planes were airborne and formations started flying their course for Sicily. After dark, a heavy wind arose, flying was rough and men became airsick. No correction for the new weather conditions was made and formations began drifting off course. Difficulties became evident at Malta when many planes missed this important check point.
>
> Some pilots lost their elements and went alone. Several joined British formations and followed them to the east coast of Sicily. Over the beaches flack further distracted the pilots and the final drop resulted in units scattered from Gela to the east coast of Sicily.[23]

For the 505th CT, instead of being dropped over a five-mile area as planned, it was scattered over a sixty-five-mile area! Only a small percentage of men actually landed in front of the advancing 1st (U.S.) Infantry Division. Most were spread out all along the south coast of Sicily, disorganized, and disoriented. After the landing, the CT spent most of D-Day trying to assemble. Combat actions during this time were fought in small groups of paratroopers from different units or planeloads. Despite their misaligned fighting formations, the troopers of the CT attacked, with great ferocity, any enemy position they came across whether it be a pillbox, strong point, or roadblock. As noted from the Operation Husky report:

> The Artillery had difficulty in assembling its 75-mm howitzers. The operation was slow and some 75s were never recovered. Artillery did get into the operation however, and hits on Mark Vs (German tanks) were scored by rolling the guns forward to exposed positions. The action as a whole was so scattered, the artillery was not given a fair test in this operation other than to demonstrate the need of transport for guns and ammunition.[24]

The 456th PFA encountered the same difficulties as the infantrymen of the 505th. Units were scattered and the artillerymen spent the majority of D-Day assembling and organizing their units. Each of the three firing batteries (A, B, and C) lost one howitzer each, but had accounted for the majority of men and equipment by the end of D-Day. None of the batteries reported any significant challenges with finding their dropped guns or loads despite the scattered drops. A testament to the test battery design of having a complete gun and crew drop from one aircraft. The PFA battalion's biggest challenge once sections had the guns put back together in firing configuration was mobility. As mentioned earlier, the test battery left prime movers off the T/BA, so any movement of the gun over any distance had to be done manually with section members either pushing or pulling the gun over all types of terrain.

When General Ridgeway came ashore from his command post at sea, he arrived at the 1st Infantry Division's Command Post (CP) expecting to find 505th paratroopers and receive an update on actions thus far. He found hardly a soul. He had no success reaching Colonel Gavin by radio, so he set out to find him thinking the CT was pinned down near their DZs. He never found Gavin or any unit-sized element of the 505th. What he did find was scattered remnants of the regiment in no coherent form or organization. Seeing this, General Ridgeway notified General Patton, the Seventh Army commander, that he should cancel the drop scheduled for the evening of D+1. "Patton insisted he needed additional infantry,"[25] so the 504th Parachute Infantry Regiment (PIR) along with

the 376th PFA were ordered to drop into Sicily as planned. General Ridgeway assured Patton that he had notified both Army and Navy elements of the intended Allied drop on the evening of 10 July. The takeoff and flight of the 145 C-47s over to Sicily went as planned, but when the Allied aircraft started to approach the Sicilian coastline they were met by intense, friendly antiaircraft (AA) gunfire from both naval vessels afloat off the coast, as well as AA batteries along the beaches. Nothing could be done to stop the slaughter of the 504th. At least half of the aircraft were hit with the 376th PFA taking the brunt of the effects--over "half of the planes shot down had been carrying [their] artillerymen."[26] The experience was so traumatic for the men of the regiment that most of them were still in shock days after the mishap. The 504th, specifically the 376th PFA, was essentially rendered combat ineffective in the aftermath of the drop. Based on events that surrounded the 505th CT and the 504th PIR, General Ridgeway cancelled the glider landing scheduled for the next morning, D+2, for the 325th Glider Infantry Regiment. General Patton would have to survive without any further reinforcements from 82nd Airborne Division paratroopers for the rest of the campaign on Sicily.

The fighting in Sicily continued until 17 August 1943 when General Patton's forces marched into Messina, hours ahead of General Montgomery's British forces. For members of the 504th and 505th CTs, the fight was over. On 20 August 1943, elements boarded C-47 transport aircraft and flew back to North Africa where they would establish a bivouac and reconsolidate their forces in preparation for future combat operations in Salerno, Italy.

As the division began planning for the invasion of Salerno, Major General (MG) Ridgeway and Colonel Gavin were not too keen on having any of the parachute artillery

jump in with them. In fact, no artillery from the division artillery would be used in the initial assault phase! The reasons for not taking the 456th into combat on Salerno was due to an altercation between the division commander and the 456th battalion commander in one of the battles at Sicily. It came down to a difference in artillery philosophy among MG Ridgeway, the division commander, and Brigadier General Maxwell Taylor, the division artillery commander, and Lieutenant Colonel Harrison B. Harden Jr., the 456th battalion commander. In essence, Ridgeway had been displeased with the actions of the gun crews at Trapani and felt Harden had failed to maintain discipline during the battle. Ridgeway wanted to use the 75-millimeter pack howitzers in the direct support role, much like mortars were used. Harden knew this was not the correct use of artillery employment and basically told his gun crews not to move and assume that sort of role. As a result of Harden's actions and the in-actions of the gun crews, Ridgeway ordered Taylor to relieve Harden of command.

Once infantry regiments from the 504th and 505th secured the beach landing sites, the artillery would come ashore as part of the follow on forces. The operation in Salerno was successful, but did not bode well for solidifying the concept of airborne artillery supporting the infantry. Because the parachute and glider artillery did not participate in the initial assault on Salerno, there were no lessons learned to take away in preparation for the Normandy invasion. The only lessons the division artillery would take away were from the Sicily campaign. Those lessons were collected into a 5th Army Airborne Training Command memorandum and included the following:

> Approximately 5000 American parachutists were employed in the Sicily operation. . . . Sixty odd troop transports can be counted complete losses. Of all

these losses, at least 50% could have been eliminated by proper training, planning and coordination.

a. The execution of the Airborne plan as directed in field orders was very unsatisfactory due to the scattered dropping of troops. The results obtained by the 505th RCT after its drop however, more than justified the employment of this unit. Its aggressive action in rear areas dampened enemy morale . . .

b. It is not safe to draw a general conclusion that scattering airborne units far and wide in rear of the enemy is a sound operation. Troops more determined than the Italians might have made short work of these small groups.

c. The operation of the 504th CT cannot be considered satisfactory. Its losses were not compensated by any real damage to the enemy.

d. Overwater routes for troop carrier formations should be a path ten miles wide, cleared of shipping and marked by vessels with lights every 50 to 75 miles . . .

e. Airborne troops should never drop behind their own lines.

f. Airborne troops and troop carrier groups should complete basic and unit training in the United States and arrive in the theater prepared for operational training.

g. Glider training, to include night operations must be improved or glider units should be eliminated. With glider training at such a low standard, the Division Headquarters has no function. A parachute Brigade would be a more practical unit.

h. A higher headquarters which commands Airborne, Troop Carrier and Air Corps Photographic Units would be of great value.[27]

It is important to note that given all the after action comments listed above, not one comment addresses lessons learned from the field artillery. Given that they had a scattered drop in Sicily and that they were not used in Salerno one can make the assumption that the parachute field artillery was not that effective overall.

On a much larger scale, a vital lesson the Allies were able to take away from the Sicilian campaign was the need for close cooperation and ability to plan, equip, and execute combined operations, such as airborne assaults and beach landings. But the most important lesson learned for U.S. forces, and specifically the 82nd Airborne was “how to

organize and deliver our airborne troops."[28] Once Sicily was captured, the 82nd established a training facility at Biscari Airfield with the express purpose of training pathfinder units that consisted of experienced glider pilots and well-seasoned, dependable paratroopers. The pathfinder team was composed of one officer and nine enlisted men who were augmented by a security force, large enough and appropriately armed, to ensure mission accomplishment. The team would jump into an area twenty minutes prior to the main body parachute force and set up or establish the DZ by marking it with lights and electronic equipment that allowed the incoming aircraft to home in on the signal. This greatly assisted in reorganizing the force upon landing. In addition to the pathfinder concept, the parachute field artillery battalions developed a technique in which they attached colored lights to the paracrate loads during nighttime drops. The lights would activate as the loads hit the ground making it easier for the cannoneers to find the different pieces of the gun and facilitate a more rapid assembly of the crew and gun.

Another lesson the division learned was to immediately assault their initial objectives after they hit the ground. As they saw it, they had gained the initiative from the drop and in order to keep the initiative they needed to move on their objectives right away as opposed to waiting to assemble a sizable force before going on the attack. "The airborne experiences in Sicily proved valuable to us in our later battles and in helping train the green units and individuals coming from the United States."[29]

The lack of focus and ability to train with experienced flight crews was the downfall of the Sicily operation from which many valuable lessons were learned--albeit the hard way. The actions of parachute field artillerymen proved the concept and doctrine sound, but questions would arise as to the feasibility of not placing howitzer prime

movers on the units' T/BA. It is also important to note the division's failure to work more readily with the parachute field artillery in fixing the problems they encountered with lack of mobility and lack of ability to assemble fast enough to provide concentrated, effective fires. Given the fact that the drop over Sicily was executed so poorly, it was impossible to truly validate the concept of parachute or glider artillery. In that artillery was not utilized in the airborne assault phase in Salerno, the men of the division artillery (DIVARTY) would have to rely on previous experiences from both training and limited combat to carry them forward to Normandy.

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[1]Capt. Lucian B. Cox and Lt. Herbert E. Armstrong, "The Pack Howitzer Hits the Silk," *Field Artillery Journal vol #, series #* (April 1943): 257.

[2]Ibid.

[3]Ibid.

[4]Ibid.

[5]Ibid.

[6]Ibid., 258.

[7]Cox and Armstrong, 258.

[8]Ibid., 259.

[9]Ibid.

[10]Ibid.

[11]Ibid., 260.

[12]Ibid.

[13]Ibid.

[14]Headquarters, Fifth Army Airborne Training Center, Report of Airborne Operations, "Husky" and "Bigot," 15 August 1943, 1.

[15]General James M. Gavin, *On To Berlin* (New York: The Viking Press, 1978), 7.

[16]Headquarters, Fifth Army Airborne Training Center, 3.

[17]Starlyn R. Jorgensen, "History of the 456th Parachute Field Artillery Battalion," (unpublished), 52.

[18]Headquarters, Fifth Army Airborne Training Center, 4.

[19]Jorgensen, 52.

[20]Gerard M. Devlin, *Silent Wings: The Saga of the U.S. Army and Marine Combat Glider Pilots During World War II* (New York: St. Martin's Press, 1985), 78.

[21]Headquarters, Fifth Army Airborne Training Center, 6.

[22]Jorgensen, 57.

[23]Headquarters, Fifth Army Airborne Training Center, 9.

[24]Ibid., 11.

[25]Jorgensen, 65.

[26]Ibid.

[27]Headquarters, Fifth Army Airborne Training Center, 12-13.

[28]Gavin, 49.

[29]Ibid., 50.

CHAPTER 4

HITTING THE SILK: THE PLANNING AND EXECUTION OF OPERATION NEPTUNE

By mid-March 1943, the Combined Chiefs of Staff (CCS) selected British Lieutenant General (LTG) Frederick Morgan to assume duties as the chief of staff to the supreme Allied commander "and charged him with coordinating and driving forward the plans for cross-Channel operations this year and next year."[1] After a month of analysis and deliberation, the CCS concluded that there was no feasible way for Allied forces to conduct that sort of an invasion by the end of 1943 and issued a final planning directive to LTG Morgan in late April. The directive "ordered Morgan to begin planning for a full-scale assault against the Continent in 1944, as early as possible."[2]

Needless to say, with such a broad directive came many questions that would need answers of the largest magnitude--where and when would the invasion take place? Given the general concept of operations, what type of training would be conducted and where? And above all, who were the participants? With this directive, LTG Morgan put together a planning staff that consisted of British and American officers and called the staff formation COSSAC, the initial letters of his new job title--Chief of Staff to the Supreme Allied Commander. The COSSAC began the tedious and laborious process of finding answers to these questions and many more.

In order to solve the "tactical" problem as set forth by the CCS directive, one had to first understand or define the elements of the problem in order to arrive at feasible conclusions. The strategic requirement "was to land as close to the ultimate objective, the Rhine-Ruhr region, as possible,"[3] in order to shorten the distance Allied Forces had to

fight through, as well as avoid over-extending their lines of communication (LOC). As the COSSAC planners began the task of identifying tactical requirements for the operation, a significant constraint arose that limited the number of landing craft Allied Forces could use at one time during the landing assault. This limitation restricted them to landing no more than three divisions at any given time and would be a major factor in how they developed the concept of operations. It also removed any possibility of a broad attack over a wide front. In view of these circumstances, the COSSAC planners agreed to adhere to the principle of mass (concentration of forces) and have only one invasion site with all divisions landing abreast of one another.

Given the strategic and tactical requirements, where would Allied Forces conduct the invasion?

> The site had to be within range of Allied fighter planes based in the United Kingdom. There had to be at least one major port close at hand that could be taken from the land side and put into operation as soon as possible. There was no thought of landing where the Atlantic Wall was complete, that is, around the French ports . . . [because] a direct frontal assault against a well-defended port could not succeed. Therefore the beaches selected had to be suitable for prolonged unloading operations directly from the LSTs (landing ship, tanks) and have exits for vehicles and adequate road nets behind them for rapid, massive deployment inland.[4]

The COSSAC planners analyzed all ports and possible landing sites from Holland to Belgium to the coast of France and through a process of elimination, based on tactical necessity, the choice came down to the Calvados coast of Normandy. Their initial assessment was that the port of Caen could be taken, quickly, in the initial seaborne assault, while an airborne force could capture the airfield, called Carpiquet, on the outskirts of Caen. In seizing and securing Caen, Allied Forces would "cut the railroad and highway from Paris to Cherbourg, thus simultaneously isolating the Cotentin Peninsula

and putting the invaders in a position to threaten Paris.[5] The landings in the vicinity of Caen would eventually be scrapped for a more favorable landing site--Cherbourg. Airborne forces could assist the beach landings by seizing key road networks inland and blocking German counterattacks to allow seaborne forces to continue the invasion to the French interior. This potential course of action would also cut off and isolate the Cotentin Peninsula, thus posing a potential threat to Paris as well.

Another advantage that supported the decision to invade along the French coast was the fact that the British had collected large amounts of intelligence on the French coast from 1942 to 1943. The information gathered consisted of panoramic photographs and topography of the countryside, beach obstacles, enemy formations defending the coastline, strong points, and logistics hubs. Though so much information was known, there was still one large, essential question that needed answering. "Would the beaches west of the mouth of the Orne River support DUKWs, tanks, bulldozers, and trucks?"[6] The only way to find out the answer to that question was to obtain actual soil samples from the tentative landing sites along the French coast. The DUKW, or duck as the users called it, was a floating two-and-a-half truck. The letters in the word stood for: D for 1942, the year of design; U for amphibian; K for all-wheel drive; W for dual rear axles."[7]

On New Year's Eve 1943, Major (MAJ) Logan Scott-Bowden and Sergeant (SGT) Bruce Ogden-Smith set off in a midget submarine, from the No. 1 Combined Operations Pilotage and Beach Reconnaissance Party, to collect soil samples from the beach. They arrived at Lucsur-Mer, a seaside village, which would later be given "the code name Sword"[8] and filled tubes with the sand and soil. MAJ Scott-Bowden conducted other reconnaissances along beaches that were to be later named Juno, Gold,

and Omaha. In all cases the samples revealed that "the sand could bear the necessary weight"[9] of a beach landing comprised of, among others, armored and mechanized formations. Scott-Bowden was called to COSSAC headquarters, which would later be called Supreme Headquarters Allied Expeditionary Force (SHAEF), to personally brief General and Flag Officers overseeing the planning of the invasion. After he described his reconnaissance and answered all the General's questions, MAJ Scott-Bowden offered this opinion: If you don't mind me saying so sir . . . (to GEN Bradley) I think that your beach with all these tremendous emplacements with guns and defilading the beaches from here and there and all over, it's going to be a very tough proposition indeed."[10] Little did he know how right his opinion was.

Upon selection to assume the post of Supreme Allied Commander, General Eisenhower quickly formed his team and, together, moved to London to assume the duties of the COSSAC. They immediately began to analyze and assess the invasion plan LTG Morgan had developed for feasibility. After extensive examination, Eisenhower and his team agreed unanimously that the invasion front, as it stood, was not big or wide enough--three divisions simply would not get the job done. He "demanded, and got, an allotment of additional landing craft"[11] that would allow the Allied Forces to conduct a wider invasion with a five-division assault as opposed to a three-division assault. But in which direction would Eisenhower expand his front, east or west? Going east would put Allied forces invading right in front of the Le Havre coastal guns. Going west was not favorable because the Germans were flooding the low-lying areas on the Cotentin Peninsula. After much deliberation, Eisenhower chose to expand his front westward and would solve the flooding problems by dropping the American airborne divisions inland.

Their task would be to seize the elevated roads that crossed the flooded plains, allowing the invading sea forces to use those roads to continue the attack inland.

Thus was born the concept of what would be called Operation Overlord:

> The U.S. 4th Infantry Division would lead the way on the Cotentin, where the beach took the code name Utah. The U.S. 29th and 1st Infantry divisions would land at the beach on the Calvados coast code-named Omaha. The British and Canadians would land on the beaches stretching westward from the mouth of the Orne, code-named (from east to west) Sword (British 3rd Division, plus British and French commandos), Juno (Canadian 3rd), and Gold (British 50th). The British 6th Airborne would land between the Orne and Dives rivers to protect the left flank . . . so it was settled. The invasion would come against the Calvados coast, with the British on the left and the Americans at Omaha, with an extension to the right onto the Cotentin coast at Utah.[12]

There were still many details of the plan that would need developing, but Eisenhower's team had worked out the details for a feasible concept of operation. The next big question SHAEF planners had to answer was *when* would the invasion take place? According to the directive LTG Morgan received from the CCS in late April 1943, it would occur "as soon as possible."

The months of March and April 1944 were ruled out as possible dates because of the often uncertain and stormy weather spring brought to the French coastline. Analyzing the problem from a more strategic standpoint, with the spring thaw coming, the Russians would not be able to mount any kind of cohesive, considerable offensive on the Eastern Front to prevent German Forces from repositioning back to Europe. In light of this analysis, LTG Morgan initially chose 1 May as the tentative invasion day. Eisenhower pushed that date back by one month in order to allow more production of various landing craft needed for the two extra divisions. With 1 June set as the target date, other significant factors would need to be considered in order to pull the operation off. At the forefront was the consideration of the tide and moon phases. The Navy and Army Air

Corps Forces wanted to attack during hours of daylight in order to safely maneuver ships across the English Channel, as well as achieve the greatest effects from bombing runs prior to forces going ashore. The Army generals insisted on crossing the channel at night, under cover of darkness and landing at first light. This would maximize the element of surprise and afford the Allied forces an entire day to get established.

> The AEF needed at least a half-moon the night of the crossing, enough to provide some illumination for the fleet and for the paratroopers, who would be dropping into France some five hours before H-Hour. A rising tide at first light following a night with a suitable moon occurred during two periods in June, the 5th, 6th and 7th and again on the 19th and 20th. Eisenhower picked June 5th for D-Day. . . . H-Hour would be dawn.[13]

The Overlord plan was designed with no contingency plan upon which to fall back on in the event something went terribly wrong at the onset of the operation. The Allies could not afford failure. If the AEF was unable to penetrate the Atlantic Wall on 5 June 1944, there would be no other opportunities to try again later in the year. The Allied forces would have to wait until 1945 before they could try again.

On 28 May 1943, as the SHAEF planners were grinding out the details of the Overlord Plan, the Assault Training Center held a conference in England with the express purpose of developing a "procedure and doctrine to govern the units of an assault landing in making a cross-channel invasion against a heavily fortified coast."[14] These procedures and doctrine would apply to all units, whether they were U.S., British, or Canadian, that were under the command and control umbrella of the Allied Expeditionary Force in order to provide for a common understanding in the employment of tactics.

The participants at the conference agreed that "airborne divisions should be employed against hostile reserves to prevent their reinforcement of the troops defending the beach area and to block the hostile counterattack."[15] The DZs and LZs should be

located such that airborne troops land at least one mile away from their objectives during daylight hours and ½ to ¾ of a mile during hours of darkness. This would facilitate the troopers getting organized and moving in unit formations for the assault prior to being engaged by enemy direct and indirect weapons.

The conference attendees also came to the conclusion that "parachute troops would be employed against hostile shore batteries to assist in their reduction from the rear."[16] In terms of whether to drop during the day or at night, it was recommended that the airborne divisions drop during hours of darkness. This decision was reached based on input from paratroopers who said jumping at night was much better than daylight because they suffered fewer injuries. In terms of employment of the airborne soldiers, the conference attendees emphasized that the airborne forces should not be dropped at so far a distance that reinforcements could not arrive in time to exploit their initial success prior to possibly being eliminated by enemy action. As a general rule of thumb, according to guest speaker Colonel Dalbey, Chief of Staff, Airborne Command, "The maximum distance inland from a hostile forward area at which you should land airborne troops should be about equivalent to that distance which can be covered by ground forces in three days."[17] Prior to the final question and answer session of the conference, the audience came to the consensus that the best time to approach and pass over the heavily fortified coast was under cover of darkness, which, from an airborne perspective, was a major factor in determining when H-Hour would be. Fortuitously, the SHAEF planners were thinking the same thing when Eisenhower picked H-Hour at dawn, meaning the airborne forces would cross the English Channel and French coastline and jump during hours of darkness.

During the question and answer session following the formal portion of the assault landing conference, numerous questions were asked, but two stand out as worthy of discussion. The first question could possibly shed some light on why artillery did not play more of a significant role for airborne forces during the first four days of fighting in Normandy. The second question's conclusions allude to the tasks the 82nd (and 101st) Airborne Division would be given as their initial objectives during Operation Neptune. The two questions asked and conclusions reached by the conference attendees follow:

> Question – What diversions of transport and fighter aircraft from other operational missions is involved in an airborne operation? How will this affect the use of airborne troops in a landing assault?
>
> Conclusions reached: An airborne operation involves a very considerable diversion of transport, fighter and bombardment aircraft from other missions, as the operation must be covered throughout. Consequently, the number of airborne troops which may be used in a single operation is definitely limited. Within the near future not more than two U.S. Airborne Divisions can be used in the European Theater.
>
> Question – How may each type of airborne unit be best used in support of a landing-assault: seizure of airdromes? seizure of ports? destruction or seizure of hostile communication and transportation centers? isolation of beach areas from reinforcements? attack of beach defenses from land side?
>
> Conclusions reached:
>
> a. Seizure of airdromes by parachute troops is practicable but is considered uneconomical unless objective is so situated that it can be reinforced promptly and secured by other troops.
>
> b. Airborne troops can assist in seizure of ports by taking specific objectives such as coast defense batteries.
>
> c. Airborne divisions can be used for isolating beach areas from local reinforcements within the divisional area, but they will have to be backed up by air and ground forces in holding up hostile reserve divisions.
>
> d. Parachute troops can be used to attack beach defenses from the land side, but this must be limited to specific objectives and carefully

> coordinated with the assault force in the planning stage in order to avoid confusion in the beach area and bringing them under our own supporting gunfire.[18]

The conclusions reached for the first question capture to the doctrinal thought of the time, and that was the use of fighters and bombers instead of field artillery to support airborne troops during and after an airborne assault until such time as reinforcements with greater firepower could link up. Though the army (test battery) had developed techniques for dropping parachute field artillery, army leadership seemed to discount the capability the artillery could bring to bear in support of infantry--as evidenced by the design of Operation Neptune. Given the lack of confidence in parachute field artillery, the SHAEF planners would rely on fighters and bombers to support the airborne forces of which, only two U.S. airborne divisions would be used because of the requirements for air cover.

The conclusions reached by the members of the conference for the second question were right in line with the airborne doctrine at the time as stated in FM 31-30. The objectives given to the parachute infantry regiments would be very similar, if not exactly like, the objectives stated in the question, tied directly to the doctrine, and published in the operations order for the Normandy invasion.

Some mention was given to glider operations and comments revolved around its ability to land at night, near identifiable landmarks, and in open terrain. Reinforcements would need to be nearby, as glider forces could not hold terrain for very long. No mention was made of glider artillery, which, again, lends credence to the airpower theory.

The assault training conference was crucial in developing standardized doctrine for the Allied forces participating in Operations Overlord and Neptune. With such a large

formation of men and equipment undertaking the monumental task of invading a country without the benefit of ever having trained together, it was vital that all forces understood "here is how we are doing this" in terms of techniques for conducting the beach and airborne assaults. Eisenhower could not afford to have units doing things their own way--it had to be standardized across the force. The stakes were too high and failure was not an option.

Meanwhile, back in Italy the war had come to an impasse at the Gustav Line with Axis forces still occupying Rome. It was apparent to General Ridgway that his airborne division was no longer needed in the Italian campaign so he wanted to deploy his forces to the British Isles to begin training and stage for the much-anticipated invasion of Europe. Unfortunately, General Clark (Fifth Army commander) wanted "to keep the airborne division for use in airborne-amphibious 'end runs' behind German lines along the west coast of Italy."[19] A compromise was eventually reached, and Ridgway would have to leave behind the 504th Parachute Infantry Regiment, the 376th Parachute Field Artillery Battalion and the 456th Parachute Field Artillery Battalion. The 456th would only be used for temporary duty and eventually move to England in enough time to train for and participate in Overlord. The remainder of the 82nd would leave for the British Isles immediately.

As the invasion planning continued to evolve, it became readily apparent to the leadership of the 82nd that the division would need its artillery back in order to train with the infantry regiments. General Ridgway made a request to Fifth Army to have part of his artillery returned, if not all of it. What he got was two firing batteries from the 456th PFA. The rest of the 456th, Headquarters, Headquarters and Service Battery and Batteries

A and B, remained in Italy. “On November 14, 1943 the 456th PFA Battalion, commanded by Major Hugh A. Neal, arrived at the 23rd Replacement Depot area just southeast of Algiers as part of the 82nd Airborne Division rear echelon.”[20] Batteries C and D would remain in the replacement depot, under the command of Captain Raymond Crossman, while the rest of the battalion moved to its new location near Bizerte for more combat duty in Italy. Batteries C and D were subsequently attached to Headquarters, 82nd Airborne Division Artillery, and on 28 November moved from the bivouac area to board the British ship *Franconia* and set sail for England.

The batteries landed in Liverpool, England, on 9 December 1943 after an uneventful trip. The next day they boarded the *Ben My Chice* and headed for Belfast, Northern Ireland. They arrived on 11 December and were separated--C Battery was attached to the 319th Glider Field Artillery Battalion and moved to Camp Ballyscullion in Castle Dawson. D Battery was attached to the 320th Glider Field Artillery Battalion and moved to Camp Monrush in Cookstown. The level of training proficiency within the two batteries was in decline since November because of the multiple changes of station and lack of equipment to train on. In fact, the whole division artillery was experiencing a decline in its training levels due to post operations in Africa and the move to England. The state of training for the DIVARTY was about to change, once the paratroopers returned from leaves and passes granted to them upon arrival in England.

The division artillery ramped up its training, starting in late December 1943. It occupied Feeny Range and began shooting practice fire missions. During the same time, D Battery, 456th PFA converted from the antiaircraft and antitank battery to a firing battery. Batteries C and D rounded out the 319th and 320th GFA Battalions acting as the

third battery for those units. In addition to the conduct of fire missions, "training consisted of daily short road marches, practice in radio nets, and care and cleaning of equipment."[21] On 14 February the two firing batteries left their camps and loaded the *Boissevain*, which would take them to Scotland. They arrived the next day and then traveled by train to Husbands Bosworth, England. On 19 February Battery C was officially relieved from attachment to the 319th GFA and subsequently attached to the 320th GFA. On 20 February Headquarters and Headquarters Battery and A and B Batteries, which were still serving in Italy, were officially redesignated the 463rd Parachute Field Artillery Battalion. Batteries C and D would be the foundation for the newly reorganized 456th PFA. Command of the battalion was given to Lieutenant Colonel Wagner J. D'Alessio. The status of his battalion when he took command was one trained and combat-tested firing battery and one AA/AT battery that had one month's training and experience as a firing battery. Personnel strength was 16 Officers and 205 enlisted men spread out over two separate camps, attached to the 320th GFA. The newly appointed battalion commander had three major problems to deal with in the shadow of the impending invasion:

1) To billet C and D Batteries together
2) To form the remaining three Batteries
3) To train the Battalion as a team ready for combat within three months.[22]

This was no small task. Resolution for the first problem came on 2 March, when both C and D Batteries were relieved from attachment to the 320th GFA and assigned to the 456th PFA. The batteries moved to the battalion's camp, established in the city of Market Harborough, Leicester. On 5 March D Battery was redesignated B Battery and was an

official firing battery by TO&E. By 20 March D'Alessio formed Headquarters and A Battery and used the combat experienced officers and noncommissioned officers of B and C batteries as cadre to train the new, inexperienced personnel. By the end of March the 456th training status was that Headquarters and A Batteries were ready to begin training, B Battery now had two months of training under its belt as a firing battery and C Battery was the most trained.

With the battalion formed and living together as a unit in the same camp, the 456th PFA, along with the 319th and 320th GFA had a very short time to ensure its troopers were trained and ready for combat. The 456th would have the most challenging time, as they were the most inexperienced battalion in the division artillery.

Training for the 456th began in earnest on 20 March, along with the rest of the division artillery with the focus on individual and small unit (section and battery) actions. Training included:

> frequent Reconnaissance Selection and Occupation of a Position (RSOP) exercises with stress placed on individually and collectively digging in, camouflage and concealment, speed in going into position and displacing rapidly both by day and night. Foot marches and Command Post Exercises (CPX) were also stressed, together with rocket launcher and small arms firing at a nearby range.[23]

Other aspects of firing battery operations received attention during training in as much as time would permit. Fire Direction Centers (FDCs) worked on crew duties during occupation and displacement, processing fire missions and training on all other aspects of gunnery that provided for accurate, predicted fires. Survey crews honed their skills in manual survey techniques that would enable them to determine survey data for gun positions and provide directional control for the battalion. Liaison parties refined their skills on radio operations and reporting procedures, and wire crews trained on every

aspect of laying wire and ensuring internal and external battery communications would not fail.

On 14 April, the division artillery left their camps throughout England and moved to Sennybridge Firing Range in Whales to exercise gunnery from the battery level to the DIVARTY. The parachute artillerymen spent six days firing missions and working out any deficiencies in their mission processing and overall firing battery operations. This was a much-needed exercise for the DIVARTY as it had received a lot of replacements from the states and this was essentially the first time many of them had fired live missions with a unit. When the men of the division artillery returned to their camps at the end of April, they found themselves, and the division, put on a high state alert for future deployment into France. The next twenty days would be spent working on any problems the batteries and battalions uncovered in their training at Sennybridge. The division culminated the field training exercise with a division-level tactical problem. Training was over. The division artillery was in good shape, but the 456th had only two months to train as a battalion since its formation. Despite the short training time, the men and leadership of the battalion felt they were ready for combat.

The infantry regiments and the rest of the division trained just as hard as the division artillery in the final months leading up to the invasion. “Units did make several company and battalion parachute jumps, as well as continue almost uninterrupted ground combat training.”[24] Over thirty-eight joint exercises were conducted with numerous units of the 82nd at the regimental combat team-troop carrier wing level. Of particular interest was the training of the newly organized pathfinder units. There were eighteen specially trained teams of which most would be employed to mark the DZs and LZs on D-Day.

> The specially trained crew of the initial pathfinder aircraft was to find the designated zone by accurate dead reckoning and map reading, with close checking by radar aids, and the use of special drop zone maps. Main serials would be led to the area by dead reckoning and radar aids, and then to the drop zones and landing zones by use of Rebecca/Eureka (radar) equipment. The standard marking from drop zones was a series of five lights placed to form a "T," and a Eureka installation at the head of the "T." The jump signal was to be given when the leader of the group was over the head of the "T." For marking a glider landing zone a line of seven lights in the order, going downwind, one red, five amber, one green was to be set up. The lights were to be placed through the main axis of the landing area, and a Eureka installation was to be set up off the down-wind end of the light.[25]

These pathfinder teams would play a critical role for both the infantry and artillery by guiding aircraft in on the appropriate DZs. It was critical for the artillery to be in the correct location in order to have accurate fires and avoid any chance of a firing error due to bad gun locations.

Training continued up until the last minute when the troopers of the 82nd would move to their marshalling areas for the Normandy Invasion. The parachute elements of the division were located at airfields in northern England, while the glider elements were postured at airfields in the southern portion of the country. It was here that they were put into isolation and were finally briefed on the operation.

The 82nd Airborne Division briefed its operations order on 28 May 1944. The general plan for the American divisions in Overlord called for:

> The VII Corps, with Divs in column, landing at "U" beach at H Hour with the 82d A/B and 101st A/B Div covering the landing of the seaborne assault, captures CHERBOURG with the least practicable delay. The 101st A/B Div landing by parachute and glider between STE. MERE-EGLISE . . . and CARENTAN will assault the Western exits of the causeways to assist the landing of the seaborne troops and will cover the crossings of the DOUVE from the junction of the MERDERET to the sea. The 4th Div leading the seaborne troops attacks to the Northwest passing through the Airborne Divisions.[26]

The specific mission of the 82nd in operation Neptune was to:

> Land by parachute and glider commencing during the hours of darkness D Day minus H Hour and capture the communication center of Ste Mere Eglise; to consolidate a beachhead across the Merderet to facilitate the quick passage of the forces coming in by sea; to protect the southwest flank of the VII Corps by securing the line of the Douve River; to seize crossings of the Merderet River at (grid); to destroy bridges across the Douve, South of Pont l'Abbe and North of Beuzeville la Bastille; to disrupt German defenses, supply, and communications; in general, to break up German attempts at concentrating forces to interfere with the beach landings.[27]

To accomplish its mission, the division was broken down into three "Forces." Force "A" was the parachute force that would conduct the initial drop. Force "B" was the glider force, and Force "C" was the Seaborne force.

The major elements of Force "A" consisted of (among others) of the 505th, 507th and 508th Parachute Infantry Regiments, a detachment from Headquarters, 82nd Airborne Division Artillery and a detachment from the 456th Parachute FA Battalion in direct support of the 505th. The detachment from the 456th consisted of the first and third gun sections of C Battery--the only field artillery guns to drop during the invasion! The overall objective for the force was to "drop between 0100 and 0315 on the night of D-1/D Day . . . to seize, clear, and secure the Div area, establish a bridgehead west of the MERDERET, and protect the Northwest flank of VII Corps."[28] The 505th (along with the detachment from the 456th) was given six initial objectives. They were:

1) Capture and hold STE. MERE-EGLISE . . .
2) Seize and secure the crossings of the MERDERET RIVER at La Fiere and Chef du Pont.
3) Clear the Div area within its sector.
4) Establish and maintain contact with the 101st A/B Div.
5) Patrol aggressively to the line indicated.
6) Mark LZ W for glider landings.[29]

Force "B" was composed (among others) of the 325th Glider Infantry Regiment, the 319th and 320th Glider Field Artillery Battalions, and Headquarters and Headquarters

Battery, 82nd Airborne Division Artillery (-). Force "B" was to land over a period of thirty-six hours, beginning on D-Day in LZ W and reorganize without delay. The 325th was the division reserve, initially, and would be prepared to assist in clearing the divisions area of operation and conduct counterattacks as needed, advancing west to the DOUVE RIVER on division order.

Force "C" consisted (among others) of the 456th Parachute Field Artillery Battalion (-) and were to assemble once ashore and join the division as directed.

The Field Artillery Annex (Annex No. 6) provided guidance and assigned missions to the battalions of the division artillery. Their missions follow:

> 1. The 82d A/B Div Arty (less 376th Prcht FA Bn and seaborne elements) lands by prcht and glider before and after dawn of D Day, South of STE MERE EGLISE . . . and supports the div. It will be prepared to mass the bulk of its fire on [grid coordinates] and the bridge at ETIENVILLE.
>
> 2. Hq and Hq Btry, 82d A/B Div Arty, will land by prcht and glider on DZ N and LZ W.
>
>   a. The prcht element will
>
>   i. Establish com with bn areas
>
>   ii. Identify Div Arty check points
>
>   iii. Make rcn [recon] of bridges . . . and furnish latest information on their usability to Bn Cos when latter land.
>
> 3. 319th Glider Fa Bn will land by glider on LZ W.
>
>   a. Mission: Direct support of the 508th Prcht Inf. It will be prepared to mass its fire on bridge [grid] (by at least one btry) . . .
>
>   b. Contingent zone: Zone of action 507th and 505th Prcht Inf Regts.
>
>   c. Ln [liaison] will be maintained with 505th Prcht Inf to provide available personnel to conduct fire . . .
>
> 4. 320th Glider FA Bn will land by glider on LZ W.

a. Mission: Direct support of 507th Prcht Inf. It will be prepared to mass its fire on Bridge [grid] . . .

b. Contingent zone: Zone of action 508th and 505th Prcht Inf Regts . . .

5. 456th Prcht FA Bn.

a. Bn (less det [detachment]) lands amphibiously, assembles, and proceeds to join the Div as directed by CG Force "C".

b. Mission (on arrival): General Support . . .

c. Det of 456th Prcht FA Bn (two how sections) atchd to 505th Prcht Inf prior to departure. This det will revert to Bn control on Div order . . .[30]

It is important to note that when the 456th detached its two gun sections in support of the 505th, C Battery was down to only two guns. They would requisition two new guns with crew in order to make the seaborne assault as a four-gun battery.

Pathfinder teams made their initial airborne assault into Normandy thirty minutes before the main division drop. They suffered significant casualties, but were able, in part, to establish the necessary lights and radar beacons on most of the DZs, thus solidifying their existence from a doctrinal standpoint.

As the division's main body crossed the English Channel, they met little to no resistance. Upon reaching the French coastline the aircraft flew into a dense cloud bank that took them about four to five minutes to get through. During this time, aircraft formations started to come apart for fear of having midair collisions. While in the fog, the German anti-aircraft guns opened up causing the formations of aircraft to disperse even more. As they came out of the fog, the paratroopers were met by stiff flak and tracer fire, which remained intense all the way through the drop. The first units to jump were from the 505th. They exited the aircraft around 0151 on D-Day, 6 June. By 0200 hours the

entire regiment had landed and were spread from Carentan to Valognes. The main body of the regiment was within three miles of its intended DZs. “By 0500 one group of the 3rd Battalion had taken Ste Mere Eglise and accomplished initial missions.”[31] The 505th would not have any contact with the 4th Infantry Division (U.S.) coming ashore on Utah Beach until 2100 that night.

The two gun sections (1st and 3rd) that were attached to the 3rd Battalion, 505th PIR dropped at 0200 hours landing two miles east of Ste Mere Eglise. “They manhandled the one assembled gun to the first firing position on the West outskirts of Ste Mere-Eglise arriving 061400 June (2 miles).”[32] The second howitzer was assembled except for the breach block, which was never found, rendering the gun useless. The lone gun plus both crews would later be attached to A Battery, 320th GFA early on D-Day and remained attached until the morning of D+3.

The 507th PIR dropped at 0232 with the last of its units landing at 0312. Center of mass for the regiment was east of its intended DZ, but compared to the other regiments the drop pattern was not bad. The result of the drop left units fighting on both sides of the Merderet River with one force driving the Germans out of Chef du Pont and the other force taking La Fiere bridge. The 507th would operate in little groups for some time until the situation would permit them forming as a regiment.

The 320th GFA advance parties landed at 0406 on D-Day and would spend their time fighting, coordinating, and selecting initial battery positions until the battalion landed. The first elements from the 320th landed at 2315 hours, completely missing its designated LZ due to the gliders being scattered along the route into the LZ. Most of the gliders were seriously damaged because of crash landings. Elements of the battalion

would spend the rest of the night gaining accountability for men and equipment prior to being prepared to occupy their first firing position.

The 508th PIR got the green light at 0208 and completed dropping the regiment by 0220. The regiment failed to drop on its planned DZ north of Pecauville and was widely scattered with the bulk of the troopers landing east astride, the Merderet River. "Some groups landed 9 kilometers South of Cherbourg."[33] Due to the scattered drop, the regiment would later assemble in four groups.

The 319th GFA had two advanced glider party teams consisting of one officer and one non-commissioned officer jump with the 507th and 508th PIRs on D-Day in order to begin preparations for the arrival of the battalion. The battalion commander and key leaders from the reconnaissance and survey section departed at 0200 hours on D-Day with elements of the 320th GFA. The rest of the 319th "departed from Membury Airdrome at 2137 hours in forty Horsa Gliders . . . and landed at 2255 hours . . . about two miles north and east of Ste. Mere Eglise."[34] The gliders actually landed approximately 5200 yards from the intended LZ so there was not much confusion as to their location nor were the loads scattered across the French countryside. The men spent the rest of the night salvaging equipment, reorganizing, and caring for wounded.

The DIVARTY Commander Colonel March landed with his headquarters element at 0500 on D-Day on the western outskirts of Ste Mere Eglise. They moved to the Division Command Post, checked in, and then established the DIVARTY Command Post in preparation for taking over command and control of the DIVARTY.

By D+1, 7 June, the 505th PIR had reorganized to some extent and was in the heat of battle, fighting off German counterattacks. Though ammunition was low, they

managed to stave off the attacks and were eventually ordered to attack north of Ste Mere Eglise at midnight.

The one operational howitzer from the 456th was still attached to the 320th GFA and would remain so until D+3. The section managed to find a vehicle to tow the gun and would use that to move several times while attached. The number of rounds the gun fired would be minimal.

The 507th PIR occupied positions in support of the 505th and were able to rest briefly and reorganize its forces. Once completed, the division ordered the 507th back to La Fiere in order to relieve a battalion from the 505th. There, the 507th would suffer numerous casualties from heavy mortar and machine-gun fire.

After every attempt to salvage equipment from the destroyed gliders and reorganizing the force, the 320th GFA was prepared to move into its initial position at 0600 on D+1. "The battalion had only two howitzers accounted for, [and] the Fire Direction Center (FDC) [had to] set up next to the battery as no wire or telephone were in."[35] They were soon forced to make a survivability move with their only two operational guns, 400 yards West of Ste Mere Eglise due to heavy 88-millimeter artillery fire. Both guns would fire for the first time in the war at approximately 0930 that morning. A Battery was able to bring up one more howitzer at 2200 hours that night and was in position ready to fire by 2300 hours. At the end of the day, the battalion had three guns operational and fired a total of 205 rounds.

The 508th PIR, less artillery, generally wreaked havoc in their area of operation clearing the area around Neuville-au-Plain, destroying strong points and mortar and artillery positions, as well as policing door bundles dropped in the initial assault. The

319th GFA spent the majority of the day finding its equipment and reorganizing the force in its assembly area and would not enter the fight until D+2. The 325th GIR landed its first units at 0700 on D+1 at a LZ 2,500 yards Southeast of Ste Mere Eglise. "By 0900, a CP was established and at 1015 all battalions had reported in. All initial missions were completed by 1700 and the regiment moved to Division Reserve."[36]

On D+2, 8 June, the 505th PIR attacked and later occupied Neuville-au-Plain, then continued the attack to Grainville. By the end of the day the regiment had taken the town and the 3rd battalion had assumed Regimental reserve. The 507th fought its way out of a German encirclement, while elements of the 508th cleared the city of Le Port and occupied positions East of the Merderet from Le Port to the North of Chef du Pont. The 325th GIR mounted patrols that took large numbers of German prisoners and enemy equipment. The 1st Battalion attacked to seize a bridge West of La Fiere and the 2nd Battalion moved into defensive positions West of Neuville-au-Plain.

By D+2 the Division Artillery had reorganized and assumed command and control of the fighting. The recap of events for the day follows:

> The entire headquarters, less the seaborne echelon, was assembled at the Division CP . . . one mile West of Ste Mere Eglise. The 319th FA BN was in position east of Chef du Pont in support of the 507th and 508th Parachute Inf Rgts. The 320th FA Bn was in position ¼ mile south of the Division CP in support of the 505th Parachute Inf Rgt and the 325th Glider Inf. . . . The 319th FA Bn had seven howitzers in operation, while the 320th FA Bn had five. . . .[T]he 456th FA Bn (less C Battery) was landed during the afternoon and bivouacked near the beach that night.[37]

The lone gun from the 456th PFA would fire a total of 200 rounds in its first three days of fighting while the 319th GFA fired a total of 113 rounds by the end of D+2. No historical records could be found for the 320th GFA on D+2 that revealed how many rounds were fired. It could be assumed that they fired the about the same amount as the 319th given

they had about the same number of operational guns and were experiencing the same kind of problems with assembly and reorganization.

By D+3, June 10, the 505th PIR attacked and seized the town of Fresville while the 507th and 325th attacked the town of Le Motey, just outside of Amfreville. Elements of the 325th also secured the village of Canquigny and repelled a German counterattack. The 2nd Battalion of the 325th made initial movement towards the left flank of the 4th Infantry Division (U.S.). The 508th established a bridgehead that protected the two crossings of the Merderet.

The actions for the DIVARTY on D+3 in support of division operations follows:

> At 0720 . . . the 456th (less C Battery) [moved] into position west of Neuville au Plain in direct support of the 505th Parachute Inf Rgt. 320th were ordered to displace north to positions west of 456th. Groupment was formed of 320th and 456th under CO of 320th to support 505th and 325th in the attack at La Fiere. During this period the 4th Division was passing thru our lines to the north and communication was established with the 4th Div Arty . . . At 1800 hours the seaborne echelon of Div Arty Hq Btry reported in to the CP[38]

By the end of D+3 the number of operational howitzers in the division artillery was the 456th with eight, the 319th had eight (with one gun section coming from the 456th which dropped on D-Day), and the 320th had nine guns. Total number of rounds fired by the DIVARTY in support of division operations was about 2,700.

By D+4, C Battery, 456th PFA would finally join its battalion and complete the reorganization of the Division Artillery. The division as a whole would continue to fight in the French countryside for another thirty days without relief or reinforcements before it was pulled off the front lines and sent back to England. Once back in England, the division leadership, which included battalion commanders and above, would meet and conduct an after-action review of the airborne drop into Normandy, as well as unit

actions taken after landing. This operational review would determine how well their doctrine was applied, as well as determine what, if any, changes needed to be made prior to being committed to combat, again, in Holland.

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[1]Stephen Ambrose, *D-Day, June 6, 1944: The Climactic Battle of World War II* (New York: Simon & Schuster, 1995), 71.

[2]Ibid.

[3]Ibid., 72.

[4]Ibid.

[5]Ibid., 73.

[6]Ibid., 74.

[7]Ibid., 44.

[8]Ibid.

[9]Ibid., 75.

[10]Ibid., 76.

[11]Ibid.

[12]Ibid., 77.

[13]Ibid., 88.

[14]Assault Training Center Conference, *Airborne Troops in a Landing Assault*, 28 May 1943, notes from Colonel J.T. Dalbey, Chief of Staff, Airborne Command, 12.

[15]Ibid., 12a.

[16]Ibid.

[17]Ibid., 11.

[18]Ibid., 13.

[19]Starlyn R. Jorgensen, "History of the 456th Parachute Field Artillery Battalion," (unpublished), 87.

[20]Ibid., 88.

[21]Ibid., 97.

[22]Ibid., 98.

[23]Ibid., 101.

[24]James A. Huston, *Out of the Blue: U.S. Army Airborne Operations in World War II* (West Lafayette, IN: Purdue University Press, 1972), 174.

[25]Ibid., 175.

[26]Field Order No. 6 (Operations Order) BIGOT-Neptune, HQ, 82nd A/B Div, 28 May 1944, 1

[27]A Graphic History of the 82nd Airborne Division, Normandy 1944, 82nd Airborne Division, Operation Neptune, Historical Data, 31 October 1945, 1.

[28]Ibid., 2.

[29]Ibid.

[30]Annex No. 6 (Artillery) to Field Order No. 6 (Operations Order) BIGOT-Neptune, HQ, 82nd A/B Div, 28 May 1944, 1-2.

[31]A Graphic History of the 82nd Airborne Division, 2.

[32] Battalion Historical Record, 456th Parachute Field Artillery Battalion, for the Period 24 September 1942 to 10 October 1945, 22.

[33]A Graphic History of the 82nd Airborne Division, 3.

[34]Battalion Historical Record, 319th Glider Field Artillery Battalion, for June 1944, 1.

[35]Battalion Narrative Historical Record, 320th Glider Field Artillery Battalion, From 28 May to 12 July 1944, 0001 to 2400 hours, 7 June 1944.

[36]A Graphic History of the 82nd Airborne Division, 4.

[37]82nd Airborne Division Artillery Narrative History, From 28 May to 12 July 1944, 9.

[38]Ibid.

CHAPTER 5

THE AFTERMATH OF NEPTUNE

The 82nd Airborne Division finished its initial combat tour in the European Theater by the end of August 1944 and sailed back to England, where it arrived in mid-July. Regiments re-established the camps they left back in early June and when completed, troopers enjoyed some time off. Upon their return, the division started up a training cycle that would prepare them and new replacements for future deployment and combat operations back in Europe. The division's leadership took time out from future preparations to conduct a debriefing conference (after action review) on Operation Neptune. The debriefing took place at the Glebe Mount House in Leicester on the evening of 13 August. Battalion Commanders and above attended and were instructed "that each officer was to speak freely, without restraint, regarding any aspect of the operation during its airborne phase . . . in the interests of improving our operational technique in future combat."[1] Each regimental and battalion commander had his chance to stand up and talk about his unit's drop into France and its combat actions once on the ground. When the Division Artillery Commander Colonel March got up to speak, he had this to say about his division artillery:

> We use the system of tying our equipment together and we had no trouble. We got one gun going at STE MERE EGLISE. It would be a good idea to have a Battalion of parachute field artillery go with every regiment. We can get the individual guns in but to get them to work and assembled has not been very successful. This was sometimes due to landing. The landing zones of the gliders was SNAFU [Situation Normal, All Fowled Up]. LZ's were changed and the Air Corps was not informed of it. Some fire was delivered on D-Day, and much more on D plus 1, and it was built up as it went along. . . . In regard to parachute artillery, it is practical from the point of view of artillery. It will land and will be able to shoot. To get four guns together is quite difficult.[2]

One infantry battalion commander went so far as to say that having one gun out of four drop in and provide fires is better than not having them at all. Once all participants had their chance to speak about actions in Neptune, they developed conclusions to key issues that would be addressed in current training prior to going into combat again. The areas focused on were: challenging, assembly, equipment, individual equipment, arms, artillery, enemy reaction, own troops, pathfinder aids, airborne SOP, weather conditions, and training. For the purpose of this thesis only assembly, equipment, artillery, pathfinder aids, airborne SOP and training will be addressed.

The doctrine for assembling called for troopers, including artillerymen, to roll up the stick from the leading and trail edge of the DZ, working their way to the center. Along the way they would gather equipment bundles and, once gathered, proceed to link up with their units through means of sight, patrol contact, meeting at a predetermined terrain feature, or radio contact. One assembly light per battalion was also issued to a designated key leader who would assemble and erect the aid in order to expedite the assembly process. “Except for not being high enough, [the lights] were most satisfactory for their purpose.”[3] In addition to the lights, flares were issued just prior to the D-Day drop with orders to use in the event none of the other assembly techniques worked. It was noted in the post-operations review that those who used the flares had success in assembling their units. In terms of the only two field artillery howitzers to drop during the invasion, it is uncertain whether or not the light did or would have had an advantageous effect since only one gun was ever recovered and put in to operation. For some of the regiments, the doctrine worked as prescribed given that they dropped near their intended DZ and as a regiment. Those who experienced scattered drops would find assembling to

be a difficult task, taking a couple days to complete. In the end, the division's leadership felt they could have done a better job coming together more quickly had they jumped in more radios with personnel.

Most of the equipment bundles that dropped on D-Day were not tied together when they left the aircraft and given the bad drop conditions for the majority of the regiments, most bundles were either recovered days later or never recovered at all. Given those results, "all unit commanders are [were] in agreement that bundles must be tied together"[4] during future airborne operations. There was some disagreement as to whether or not to mark bundles with lights for nighttime drops. Those units that used marking light and were able to recover equipment without being shot up by the enemy generally recommended using lights. In cases where units suffered high casualty rates as a result of using the lights, the opinion was to not use them for reasons expressed. That aside, commanders concluded that the division's technique for dropping bundles should be amended to allow multiple bundles dropped from a single aircraft to be tied together and released simultaneously with personnel (as opposed to dropping prior to personnel exits). Then, in order to identify bundles at night, mark them with some sort of luminous tape or markings that would allow troopers to see them at close distance, but not be so bright as to make for an easy enemy target. The parachute artillery battalion was executing this technique to some extent. The bundles that were pushed from the paratroop doors were daisy-chained, or tied, together when they were rigged. This made it much easier to find all the equipment upon landing. Bundles that were hung under the belly of the aircraft could not be tied together as the division wanted because the loads were hung individually on separate bomb racks and released manually, one at a time. It would be

infeasible to daisy chain the six loads together to drop. The answer would be to drop the guns in daylight.

Despite what appeared to be a serious lack of artillery firepower during the initial days of Neptune,

> All commanders were highly enthusiastic in their praise of the artillery support received. They also, without exception, would like to see more work done with a view to developing and perfecting the use of parachute field artillery. Even with the present small percentage of recovery of weapons, they feel that the support available to them from the weapons recovered more than justifies the loss incurred in the drop.[5]

Pathfinder operations proved themselves somewhat successful in Normandy given its late arrival into the doctrine. Given the strongly held country in which Allied Forces invaded, putting into place the lighted "Ts" and navigational aids for each regiment proved impossible. The notion of pathfinder operations remained a valid concept for the division and division artillery, but the number and type of aids used would be modified to a smaller, more manageable number in addition to a reduction in personnel needed for each team.

The airborne SOP developed by SHAEF (Brigadier General Gavin was lead developer) had proven its adequacy as long as it was adhered to. The only negative comment presented was that the troop carrier wing detailed to drop the division did so at speeds that were in excess of current safety parameters. Their excess speeds caused numerous fatalities and injuries to troopers, as well as aiding in equipment losses due to it being torn off the jumpers upon exiting the aircraft. Lastly, the training policies developed by the division were found to be sound. Special emphasis was placed on conducting night drops at least twice a week in order to maintain proficiency in reorganizing and assembling forces.

With the creation of the Airborne Test Battery came useable techniques and a working T/BA by airborne field artillerymen that would allow them, in theory, to provide fire support to airborne infantrymen, thus paving the way for a new arm within the field artillery--parachute field artillery. Out of the ashes of airborne field artillery doctrine rose the glider field artillery. A concept no less important, but certainly unparalleled to the advances made in parachute deliver techniques. The doctrine and techniques tried and tested would carry the division artillery forward into its first combat engagements in Sicily. Unfortunately, due to mishaps with bad weather, the trial by fire proved somewhat costly to the parachute and glider artillerymen to the point that parachute artillery was not even considered for the initial airborne assault into Salerno. Glider artillery was planned, but would take a back seat to maneuver forces and essentially arrive on the battlefield late. This did not bode well for airborne artillery as it was trying to gain a relevant foothold in necessity for planning and conducting airborne operations. Given the fact that airborne artillery, and in particular the parachute arm, had a bad showing in Sicily and Salerno, it did little to influence the planning of the Normandy invasion. The planners at SHAEF still believed that airpower was the only way to cover airborne forces in the initial stages of a drop until such time that forces, including the division artillery, could get all its equipment landed and reorganized. The fact that SHAEF planners did not have a backup plan in the event the Normandy Invasion went awry only amplifies the importance of the airborne divisions being able to take their initial assault objectives. By gaining control of the causeways and preventing German reinforcements from gaining access to beach defenses, seaborne forces could come ashore and continue the attack inland. To assume tactical risk and hope the airborne artillery would perform as needed in

spite of anything that could possibly go wrong was asking too much. Eisenhower could not afford failure. The fact that he could not afford to fail directly relates to the field artillery concept of operations and fires for Operation Neptune. Only two 75-millimeter-pack howitzers out of an entire division artillery would be dropped in the early morning hours of D-Day. Two battalions would arrive by glider and the last battalion--the parachute battalion--would come in by sea!

With most of the parachute drops missing their intended DZs and the glider landings either missing their LZs or crashing into the Normandy countryside, assembly and reorganization were difficult at best for most of the divisions' regiments, including the division artillery. Given the conditions of the battlefield at the time, the division artillery was unable to mass its fires in order to create the overwhelming effects needed to expedite the seizure of initial assault objectives. They did manage to reorganize by late D+3 and into D+4 to provide responsive and massed fires that would eventually lead to mission accomplishment and subsequent return to England. Aside from airborne operations, the division artillery performed superbly during Neptune, once it had consolidated and reorganized its forces. They went on to provide fires in as much as any other field artillery unit would provide for its maneuver counterpart. The issue of this thesis was how well did they provide fires in the early stages of the operation. The division artillery enjoyed success providing accurate and responsive fires for the infantry regiments of the division on other operations in Holland and Germany. So successful were they that, little did they know at the time, they would write a proud and honorable lineage, steeped in tradition and revered by its members and future members for years to come.

[1]Debriefing Conference, *Operation Neptune*, 13 August 1944, cover page.

[2]Ibid., 9.

[3]Ibid., 12.

[4]Ibid.

[5]Ibid., 13.

CHAPTER 6

CONCLUSION

Given the 82nd Airborne Division's previous combat experiences in Sicily and Salerno, no adaptations were made in the planning and development of the concept of operations with regard to the role the division artillery was expected to play in the execution of Operation Neptune. With limited combat experience and parachute field artillery still in its infancy stages, the Army and the division knew they were onto something valuable with the introduction of airborne field artillery, though they had not had the time necessary to develop proven techniques to the fullest extent. It was interesting to note that despite the lack of guns and limited fire support initially provided by the division artillery, the maneuver commanders still praised the efforts of the artillery and fully supported the notion of further developing and refining the use of parachute field artillery.

The division's next significant drop was during Operation Market-Garden, in Holland, which was conducted during daylight hours and included dropping the entire 376th PFAB. This represented a monumental leap from only dropping two guns at Normandy. Why? The division and its leadership understood that parachute field artillery was a major combat multiplier to any current or future airborne operation the division might participate in. Despite the DIVARTY's initial lackluster performance on D-Day (which is certainly understandable) in terms of recovering guns and quickly gaining a firing capability, infantry commanders demanded that their supporting artillery jump into combat with them. They wanted that protective "security blanket" around their force that

only the field artillery could give, whether it was from one gun or twelve and despite the fact that they might not have the most responsive and massed fires initially after the drop.

The remainder of the DIVARTY, including the 456th PFAB, would come in by gliders beginning on D+1. The operation, from an airborne perspective, was a success due in part to daylight conditions, good weather, and little enemy resistance. Those factors in mind, units assembled quickly and guns pieced together and placed into action, ready to provide fires when the calls came.

As World War II came to a close, the division, as well as the Army leadership, still believed in the concept of parachute artillery. Although never again did airborne field artillery units drop guns during a combat operation, the infantry commanders still viewed artillery as a necessary arm for airborne and subsequent combat operations. In that light, they continued to train, to drop howitzers at the battery and battalion level, and to refine their overall techniques of employment by air in the event they were called upon to execute an airborne assault.

By the early to mid-1950s the concept of glider operations, as a means of inserting forces into an operational area, no longer seemed practical to the Department of Defense. Gliders and glider artillery were subsequently phased out of the force, because they were not effective in performing their intended mission and because the Army's leadership realized their use was unfeasible in current and future operations around the globe. Although gliders and glider artillery were no longer relevant, leaders within the Army still viewed parachute forces hence, parachute field artillery, as a viable resource in conducting the nation's wars. With that, the division artillery deactivated its glider

battalions and activated newly formed parachute battalions, making the DIVARTY a parachute force in its entirety. It remains organized as a parachute force to this day.

From the time of the Korean War through present day, the division saw sporadic combat operations involving parachute drops that included the Dominican Republic, Grenada, Panama, and the wars in the Gulf region. Parachute field artillery was never used in any of those operations. That did not mean parachute artillery was not relevant. Most likely it was the nature of the operation that dictated what kinds of forces were used. Political factors that might have limited the types and caliber of weapons systems used for the operation, limited airframes, purpose of mission, and enemy threats the U.S. forces faced are but a few examples of why artillery was not used.

Despite the nonuse of parachute artillery, all one has to do is look at history from World War II to present day to see that that arm is still present in the division's current organization. This is a very strong statement that says field artillery is a relevant part of the airborne division.

Howitzers are still dropped from aircraft and perform the exact same mission they did over 60 years ago. Artillery battalions drop as a single organization or with its supported maneuver brigade during training exercises and Emergency Deployment Readiness Exercises. Relatively speaking, the changes made to conducting airborne operations for parachute artillery were minimal. Guns and ammunition are dropped out of the back of Air Force aircraft on a platform and instead of having colored parachutes, they have colored markings on the load itself. During nighttime operations, the howitzer is marked with beanbag lights. Simply put, this is a little light whose foundation is a beanbag. The gun crews are cross-loaded over many aircraft (as was done back on D-

Day) in order to assure mission completion and time standards are in place as they were before. Gun crews go through the same actions of landing, moving to the gun, derigging it, gaining firing capability and firing missions right from the DZ. The importance of airborne artillery in support of airborne infantry is more critical today than it was back then. Infantry commanders count on artillery tubes dropping and being able to support his maneuver forces within thirty minutes of jumping. They expect and demand that.

Normandy demonstrated that "token gestures" of dropping two howitzers on D-Day as a means of incorporating parachute artillery into the maneuver concept was not enough. To the contrary, the experience in Normandy was the exception that proved the rule that airborne infantry would, never again, send its troopers into battle without their fire support brethren. The Test Battery had developed sound fundamentals on artillery employment, but the drop on D-Day did not exploit its potential and thus, the airborne division as a whole paid the price. The airborne community quickly learned that it must use its artillery on all future operations.

Today, airborne artillery is counted on to be present and provide timely and accurate fires to any operation that airborne infantry might participate in. Depending on the number of heavy drop aircraft are allocated to the maneuver commander for an operation will determine how many artillery guns get dropped. Whatever the case may be, the maneuver commander will always ensure he has his indirect fire support with him and in as much strength as aircraft will allow.

As airborne artillery grew in importance from infancy to conducting combat operations in World War II to present day, one thing remains clear. As long as there is an airborne division with airborne infantry, there will always be an airborne field artillery

unit jumping right beside them providing fire support. It was true then, it is true today, and it will remain true for all combat operations in the future.

APPENDIX A

PARACHUTE DELIVERY LOADS FOR THE 75-MILLIMETER PACK HOWITZER

The following is a list of the loads when packed for dropping:

Paracrate Load M-1

- Front Trail Assembly
- Paracover, Front Reinforce, Rear Reinforce, and Brace
- Lifting Bar
- Parachute

Paracrate Load M-2

- Rear Trail Axle & Traversing Mechanism
- Trail Handspike
- Bore Brush Staff
- Spare Parts and Tool Box
- Paracover, Rear Support, Center Support, & Front Support
- Parachute

Paracrate Load M-3

- Bottom Sleigh & Recoil Mechanism
- Aiming Circle with Case
- Crate
- Lifting Bar
- Parachute

Paracrate Load M-4

- Cradle
- Top Sleigh

- Top Sleigh, Cradle Crate
- Parachute

Paracrate Load M-5

- Tube
- Tube Crate
- Lifting Bar
- Parachute

Paracrate Load M-6

- Paracaisson
- Ammunition, 8 Rounds in Individual Fiber Containers
- Parachute

Paracrate Load M-6

- Breech Assembly
- Telescope with Mount
- Breech Crate
- Parachute

Paracrate Load M-7

- Wheels (two)
- Crate
- Parachute

Paracrate Load M-8

- Ammunition, 10 Rounds in Individual Fiber Containers
- Large Caisson & Small Caisson
- Parachute

Paracrate Load M-9

- Paracaisson
- Ammunition, 8 Rounds in Individual Fibers
- Containers
- Parachute[1]

It is important to note that Paracrate Loads M-6 through M-8 were “daisy-chained” together as a bundle and pushed out the paratroop door of the aircraft because of their bulky size or contents of the crate.

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[1]Headquarters, Airborne Center. Airborne Chart No. 9, 75-mm Pack Howitzer, Parachute Delivery, 15 August 1944.

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Gavin, James M., General. *On To Berlin.* New York: The Viking Press, 1978. This book is about the 82nd Airborne Division as told by the Assistant Division Commander, later the Commanding General. It gives a detailed account of the 82nd Airborne Division's every action from the individual fighting soldier to small unit engagements to strategic controversies. It is relevant in that General Gavin was in at the ground level when planning began to introduce the new armed extension of warfare--the airborne. It covers airborne operations in Sicily and Italy as well as changes in training and execution under combat conditions in the European Theater. It is a significant contribution to the historical record on the American's war in Europe.

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